MAY 21 1918.
UNIV. OF MICH.

This Issue Exceeds 67,000 Copies

THE JOURNAL

OF THE

American Medical Association

Annual Subscription, $5.00 | PUBLISHED WEEKLY | Single Copies, 15 Cents

VOLUME 70, No. 11 | 535 North Dearborn Street, CHICAGO, ILL. | MARCH 16, 1918

CONTENTS AND DIGEST

Observations on Medical Conditions in Roumania. H. Gideon Wells, M.D., Chicago, and Roger G. Perkins, M.D., Cleveland 743

The American Red Cross Commission. The retreat of the Roumanians into Moldavia. Epidemic of typhus. Recurrent fever. Extermination of vermin. Other infectious diseases. Deficiency diseases. Recommendations.

Aqueous Solutions of Potassium and Sodium Iodids as Opaque Mediums in Roentgenography: Preliminary Report. Donald F. Cameron, M.D., Fort Wayne, Ind. 754

Roentgenography of the urinary tract. Lack of ideal emulsions or solutions. Objections to thorium nitrate and bismuth. Experiments with potassium and sodium iodids and their advantages. Summary.

Sacral Tabes with the Clinical Picture of a Lesion of the Conus Medullaris: Report of Case. G. B. Hassin, M.D., and E. P. Carroll, M.D., Chicago..755

Varied opinions as to the classification of tabes. Report of a case. Comment.

The Diagnosis of Stones in the Bile Ducts by Means of the Wax Tip. Golder Lewis McWhorter, M.D., Chicago 757

Advantages of using the wax tip. Description of technic.

Median Bar Excisor. W. F. Braasch, M.D., Rochester, Minn. 758

Causes of urinary obstruction. Need of actual inspection of the field in operating. Description of instrument giving a visualized field for operation.

Partially Autolyzed Pneumococci in the Treatment of Lobar Pneumonia: Results in Two Hundred Cases. E. C. Rosenow, M.D., Rochester, Minn..759

Development of a method of active immunization. Preparation and administration of the antigen. Treatment. Results.

The Civil Administrative Code of Illinois, and Medical Licensure. Francis W. Shepardson, Springfield, Ill....763

Origin and adoption of the code. The code on trial. Work of the department. Supervi-

(Continued on next page)

MILITARY MEDICINE AND SURGERY

Transfusion with Tested Bloods, Including the Grouping of One Thousand Bloods and a Method for Use at Advanced Hospitals. Howard T. Karsner, M.D., France.....769

The British Zone of the Advance. Major George de Tarnowsky, M.D., France 771

Hemolytic Streptococcus Causing Severe Infections at Camp Zachary Taylor, Ky. H. L. Alexander, M.D., Louisville, Ky. 775

MEDICAL MOBILIZATION AND THE WAR 784

Personnel of the Medical Department.

News of the Cantonments.

Disease Conditions Among Troops in the United States.

Promotions.

Orders to Medical Officers.

ENTERED AS SECOND-CLASS MATTER, JUNE 25, 1885, AT THE POSTOFFICE AT CHICAGO, ILLINOIS, UNDER ACT OF MARCH 3, 1879.
NEXT ANNUAL SESSION, CHICAGO, JUNE 10-14, 1918.
COPYRIGHT, 1918, BY THE AMERICAN MEDICAL ASSOCIATION.

SAUNDERS'

Bulletin

INCREASED PRODUCTION

Of the *entire world's* production of medical books during 1917—

13.8%

are Saunders' Books.

Of the medical books produced in *America* in 1917—

16.5%

are Saunders' Books.

While the world's production of medical books during 1917 shows a *decrease* of 12.8% as compared with 1916, our output shows an *increase* of 17%

FOUR PRINTINGS IN TEN MONTHS

Moorhead's Traumatic Surgery

ADOPTED BY THE U. S. NAVY

Accident surgery is in most cases *minor surgery*. It is surgery that you, the practitioner, must do. Such accidents and injuries as dislocations, fractures, contusions, various kinds of wounds, felons, infected hangnails, boils, carbuncles, hematoma of the scalp from contusions, hemorrhage—accidents that frequently demand prompt and efficient treatment to save life, to assure restoration of function.

Here is a book on just this side of your practice—a work of nearly 800 pages, written for the needs of the general practitioner, the surgeon, the mining, railroad and industrial physician, those having to do with Compensation Law, accident insurance and claims, and legal medicine. To those medical men engaged in or preparing for *military service* this work is proving of great value. For instance, it gives you at first hand the *open-air and sunlight treatment* of wounds and *Dakin's solution*, its formula and application—treatments that the great War has brought forward so emphatically. There are 522 illustrations.

By JOHN J. MOORHEAD, M.D., Major, Medical Reserve Corps, U. S. Army, with 522 line-drawings. Octavo of 160 pages, Cloth, $7.00 net.

SAUNDERS, *Publishers* See Pages 3, 4, 5

CONTENTS AND DIGEST—Concluded

sion of educational institutions. Safeguards for medical licensure. Departmental powers under medical practice act. Distrust in the medical profession. Clearing away suspicion. Need of annual license renewal.

The Military, Industrial and Public Health Features of Narcotic Addiction. Charles F. Stokes, M.D., New York 766

Prevalence of narcotic addiction. Characteristics of the different drug users. Loss of man-power from drug using. Prevalence of heroin addiction. How to solve the problem of dealing with these cases.

CLINICAL NOTES, SUGGESTIONS, AND NEW INSTRUMENTS

A Mouth Gag. Frank Allport, M.D., Chicago 768

Use of Glycerin in the Examination of Feces for Typhoid Bacilli. Edith A. Beckler, S.B., Boston.....768

SPECIAL ARTICLE

Typhoid in the Large Cities of the United States in 1917.....777

Sixth Annual Report.

NEW AND NONOFFICIAL REMEDIES

Description of Articles Accepted by the Council on Pharmacy and Chemistry 779

Arsenobenzol—Halazone—Procaine.

EDITORIALS

Typhoid in American Cities.....780

Usefulness of the annual summary.

Creatinin and Creatin in the Blood..780

Normal distribution in corpuscles and plasma.

Meningococcus Carriers.....781

Practicability of segregation and the maintenance of military efficiency.

CURRENT COMMENT

The Army Medical Department Encouraging a Fallacy.....783

Request for bids on 3 tons of the "Compound Syrup of Hypophosphites."

Municipal Support of Hospitals and of Medical Schools.....783

High degree of efficiency in Cincinnati.

Purins in Cow's Milk.....784

Isolation of adenin and guanin in small amounts.

MEDICAL NEWS

ILLINOIS: Dwyer Asks Rehearing — Safeguarding Camps. Chicago: Personal—Grievance Committee Formed — Sanitary Inspector in Washington 793

INDIANA: Hospital Opened — Hygiene for Police 793

LOUISIANA: Personal 793

MAINE: Graduation Exercises — Progress of State Health Department 793

MARYLAND: Campaign to Raise Funds for Hospital—Pneumonia Still Prevalent 793

MINNESOTA: Personal — Service Flag for Medical College—Lectures on Social Hygiene.793

MISSOURI: Academy Banquet—Social Diseases Reportable — Service Flag Presentation — Personal 793

NEW YORK: Physicians' Building Sold — Physical Training in Public Schools — Smallpox in New York State — Personal.....794

OHIO: Personal—Licenses Revoked and Reinstated 794

PENNSYLVANIA: Succeeds Dixon — Admission of Venereal Diseases to Hospitals—Personals. Philadelphia: Officers Elected 794

WISCONSIN: Personal — Banquet to Base Hospital 794

CANADA: University News—Personal 794

GENERAL: Discharge of Carriers—British Medical Journal Under Handicap — Bequests and Donations — Posture League — License for the Sale of Chemicals 794

FOREIGN: Prize Offered for Work on Biochemical Causes of Cancer — Deaths in the Profession Abroad 795

LONDON LETTER 795

PARIS LETTER 796

ASSOCIATION NEWS 796

The Chicago Session.

MARRIAGES 796

DEATHS 797

PROPAGANDA FOR REFORM 799

Swoboda's "Conscious Evolution."

CORRESPONDENCE 802

That Tax on Oleomargarin.

QUERIES AND MINOR NOTES 802

Metric System for Army Prescriptions.
Allowable Deductions on Income Tax Returns.

MEDICAL EDUCATION AND STATE BOARDS OF REGISTRATION

Coming Examinations — Monterey, Mexico, Medical School 803

BOOK NOTICES 803

MEDICOLEGAL

When One's Former Physician Is His Medical Examiner; Evidence—Requirements of Physicians Issuing Prescriptions for Opium..804

SOCIETY PROCEEDINGS 805

Coming Meetings.
Chicago Medical Society.

CURRENT MEDICAL LITERATURE

American Medical Journals

Enzymatic Basis of Heart Beat — Vasodilator Reactions — Effect of Phrenic Sympathetic Union on Thyroid.....808

Postural Activity of Stomach—Rôle of Catalase in Shock—Effect of Epinephrin on Blood Flow in Muscles—Bacteriology of Urine in Children—Tuberculin Tests in Childhood.809

Acute Lobar Pneumonia—Organization of Blood Clots—Antigen Dose and Antibody Production—Comparative Study of Infantile Paralysis—Etiology of Granuloma Inguinale—Producing Rapid Immunity to Pneumococci.810

Etiology of Rocky Mountain Spotted Fever—Grouping of Mental Diseases — Report on Carrel-Dakin Solution — Poliomyelitis with Prolonged Somnolence 811

Foreign Medical Journals

Septicemia in Gunshot Wounds—Squamous Epithelial Tumor of Breast.....812

Treatment of Infected War Wounds—Gunshot Wounds of Knee-Joint—Operation for Substitution of Thumb—Gunshot Wound of Liver and Right Ventricle.....813

Case of Renal Calculus—Subtertian Malaria—Resection of the Right Colon—Differential Diagnosis of Tropical Dysentery—Duodenal Ulcer—Nonamebic Diarrhea Cured by Emetin—The Leukocyte Count in the Cerebrospinal Fluid in Children—Chest Measure and Height in Relation to the Skin Tuberculin Test—Hexamethylenamin in Bronchitis..814

Albuminuria After Acute Nephritis—Emetin in Amebic Liver Disease—Burial of the Dead After Battles—Sulphuration in Treatment of Scabies — Systematic Gonococcus Count—Tabetic Gastric Crisis Without Pain—Transient Sphincter Disturbance from Shell Shock—Intravenous Injections of Potassium Iodid 815

Seltzer Water Siphon for Clearing Out the Throat—Chronic Parotitis from Lead Poisoning—Jacksonian Paresis—Combined Addison's Disease and Exophthalmic Goiter—Subdulness of the Right Apex—The Fifth Cusp—The Color Diagnosis of Blood Cultures—Vasoconstriction with Traumatic Contracture—Treatment of Malaria — Wounds of the Chest—Laparotomies at an Advanced Post.. 816

Radioscopy of the Face—Roentgen Treatment of Tinea—Radiodermatitis After Roentgen Examination of the Skull—Pump to Supply Radioactive Water—Incipient Tuberculosis—Tuberculosis Developing After Gassing—Pleurisy in Farm Workers—The Penny Sign of Pleurisy—Lack of Light as Factor in Goiter—Pyelitis in Young Children.....817

Conservation of Strains of Meningococci—Infectious Disease in Field Rodents — Urine Staining Technic—The Military Medical Service Through the Ages—Diabetic Foods—Cultivation of Sarcoma Tissue in the Test Tube—Abscess in the Occipital Lobe—Lumbar Puncture in Children.....818

The Revista—Antivenom Serum—Experimental Poliomyelitis—The Miostagmin Reaction with Cancer—South American Plants Poisonous for Cattle—Vital Statistics—Rectal versus Vaginal Examination — Masked Interlobar Pleurisy—Hygiene of the Eyes.....819

Fluorene Color Reactions—Potato Flour Biscuits—Constitutional Eosinophilia in Connection with Gout—Perforation of Gallbladder in Pregnant Woman — Carbon Monoxid Poisoning — War Fractures of Jaw and Nose—Lymphogranulomatosis in Syphilitics.....820

TONICS AND SEDATIVES—BOOKS RECEIVED—THE PUBLIC SERVICE.....Adv. Page 20

PAUL B. HOEBER 69 E. 59th St., NEW YORK :: AMERICAN, ENGLISH, GERMAN, FRENCH We supply any Medical Publication, no matter where or when published. **MEDICAL BOOKS**

DON'T WAIT FOR THAT SUITABLE OPENING TO JUST "HAPPEN" FIND IT BY MEANS OF A CLASSIFIED AD IN THE JOURNAL

The Journal of the American Medical Association

Published Under the Auspices of the Board of Trustees

VOL. 70, No. 11 CHICAGO, ILLINOIS MARCH 16, 1918

OBSERVATIONS ON MEDICAL CONDITIONS IN ROUMANIA

H. GIDEON WELLS, M.D.
CHICAGO
AND
ROGER G. PERKINS, M.D.
CLEVELAND

Members of the American Red Cross Commission to Roumania

Roumania entered the war, Aug. 27, 1916, and rapidly drove her main forces through the Carpathians into Transylvania, meeting at first but little resistance. A part of her troops were occupied in guarding the Danube against the Bulgarians, it being understood that the Dobrudja would be defended by others. This not being done, the Roumanians crossed the Danube to threaten the Bulgarians. They were obliged to retreat, and also the western forces were driven back to the Carpathians. Here they held for some time, but the German forces brought up against them were far too large and they were forced back to the plains of Wallachia. With this began the exodus. Bucharest was bombarded extensively by aeroplanes, and many left the city some weeks before it finally fell, November 23; but the main flight did not begin until the Germans had approached close to the city. The court was transferred to Jassy, which became, therefore, the particular goal of the refugees.

It is estimated that from half a million to a million people fled from Wallachia into Moldavia ahead of the army, which resisted as best it could, and finally held its ground with Russian help along the Sereth line, which nearly corresponds with the original line between Moldavia and Wallachia.

The situation in December, 1916, was, then, as follows: In Moldavia, a territory not much larger than the state of Massachusetts, were gathered much of its normal population of 2,800,000 and from half a million to a million refugees from Wallachia, nearly half a million Roumanian soldiers, and approximately a million Russians. All this added population came in with little or no supplies of food or clothing, and under the mental collapse that results from overwhelming defeat, loss of home and property, and the depression of flight and privation. The transportation was so inadequate that a large part of the refugees came on foot, many walking for twenty or thirty days. The soldiers were in bad condition from fighting a retreat the whole length of Wallachia, with a demoralized commissary and a country raided of food by the refugees ahead of them. Moldavia was so far from the original firing line that extensive hospital provisions had not been made, and hence those that existed were quickly overwhelmed by the influx of wounded and sick soldiers brought back from the retreating front. Every school and suitable large building was converted into a hospital, but there was lacking the necessary equipment for these improvised hospitals. Beds were sometimes found or made, but more often sacks of straw or loose straw had to suffice. Above all, lack of blankets was serious, for winter was already on and no adequate provision for fuel had been or could be made — such transport as there was had more pressing uses than fuel cartage. And with this almost doubled population the food supply began to become serious, for even when there was an excess of food in some places its transfer to the cities was almost impossible. Moldavia was always the less rich part of Roumania, its mountainous northern part, its too dry summers, and its large swampy districts causing it to compare unfavorably with the wonderful richness of Wallachia, although on the whole Moldavia is a good farming and grazing country. But there were far from adequate supplies for this overwhelming influx of soldiers and civilians.

The transportation breakdown was of threefold origin: Railroads were but little developed in this part of the country. Highways were abundant and often excellent, but the automobiles had largely been lost in the retreat, and nearly all the oil supply of the country was in the captured territory. The chief means of transport was normally by oxen and horses. The former had been in large part taken by the army and lost, and an enormous number, estimated at 3,000,000, had been sold to Russia and Germany, especially the latter, at fancy war prices before Roumania entered the war. The horses had mostly been requisitioned and many of them lost. As to manufactories, for all practical purposes there were none whatever in Moldavia, and so nothing could be made to fill even the most pressing needs. So here this horde of exhausted, demoralized, underclothed, underfed people, crowded into a country unprepared in every way to rise to the situation.

With the hosts in flight came not only famine, but also disease. At first there were only the ordinary diseases, with a high incidence of pneumonia from exposure, and a high mortality among those with chronic diseases, including especially pellagra, of which there were estimated to be from 60,000 to 80,000 cases before the war. Famine and privation wiped out these weaklings with great rapidity.

The first epidemic disease to appear was cholera. This came out in scattered foci in Dobrudja during the retreat, and was rapidly spread through the country. The Roumanians had had some experience with this disease, for during the Bulgarian campaign in 1913 there had been a sharp epidemic in the army,

about 6,000 cases appearing in four months, when it stopped quickly under vaccination. Hence they were in a way prepared, and in spite of the extreme disorganization they soon instituted general vaccination and in a short time the cholera was under control. Professor Cantacuzene had brought his laboratory to Jassy and prepared the vaccine here. (In passing, it should be remarked that everywhere in Roumania we have been impressed by the greatness of the asset constituted by a high grade bacteriologist with a large number of well trained students and assistants. Here and there we found a man trained by Cantacuzene, and always he represented a place where better work was being done, and where invaluable services were being rendered to improve the public health.)

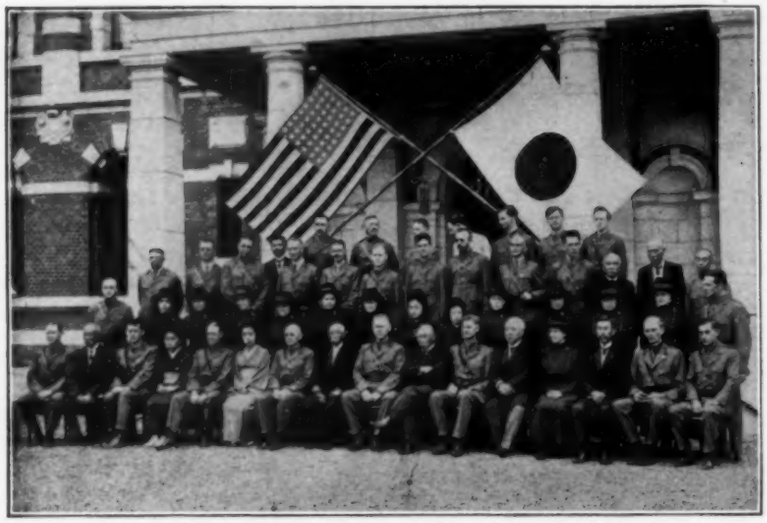


Fig. 1.—The American Red Cross Mission to Roumania, with officials of the Japanese Red Cross before the Red Cross headquarters, in Tokio. Americans on front row, from left to right are: Major Francis W. Peabody, Boston; Major R. G. Perkins, Cleveland; Major H. Gideon Wells, Chicago; Major Bernard Flexner, Chicago; Lieut.-Col. Henry W. Anderson (Chairman), Richmond, Va.; Major Arthur Glasgow, Richmond, Va.; Miss Florence Patterson (head of nursing unit), Burlington, Wis.; Major Robert Bryan, Richmond, Va.; Major W. D. Kirkpatrick (head of medical unit), Bellingham, Wash.

The testimony as to the complete prophylactic efficiency of anticholera vaccination is unanimous. Among the infected the mortality was about 25 per cent., which was aided by the extremely unfavorable conditions, especially the cold, for we heard of cholera patients with frozen feet. The army medical men seem to feel that treatment was not of much effect in cholera, even including saline infusion. Alkali therapy, as recommended by Sellards, was not tried. Since the close of the epidemic no more cholera has been seen, and Dr. Mironescu of Bucharest, now in Roman, had for several months been examining soldiers without finding a single cholera carrier.

TYPHUS EPIDEMIC

But as the cholera died out, and the growing cold and famine of the winter added to the misery of the people, a new and more deadly foe appeared. In January appeared cases of a febrile disease, not corresponding to diseases familiar to the Roumanian physicians, and which was variously diagnosed as grip, typhoid, malaria and recurrent fever. Only a few suspected typhus, and as one man puts it: "We tried to convince ourselves that it was merely grip." Typhus is not an endemic disease in Roumania, and most of the physicians there had never seen a case. A few cases had been imported from time to time from Serbia and Bulgaria, and it is probable that there have always been occasional cases in the Carpathians. Just where the disease arose in the recent epidemic is disputed; but apparently the first recognized cases were in Dobrudja and in the vicinity of Focsani. But with the shifting and crowding of refugees and soldiers, the spread of the disease was so rapid that its origin was untraced and unimportant. Together with the typhus, and in fact, slightly preceding it, came another louse-borne disease, recurrent fever, which attacked equally great numbers and caused more than half as great a mortality. The first considerable numbers of recurrent fever cases were diagnosed in January, although it is now believed that among these, and indeed among all the cases listed as recurrent, were many typhus cases, for in most places laboratory diagnosis, by the simple procedure of finding the spirillum in the blood, was not possible. Typhus was not recognized in considerable numbers until February, and reached epidemic proportions only in March, rising to a maximum in May, while recurrent fever was at its maximum in April.

And now arose a situation that can only be compared to the descriptions in Defoe's "Journal of the Plague Year." The stricken population fled hither and thither to escape infection, or to find food, warmth and shelter, and so they spread the disease until it is probable that nearly a million were infected

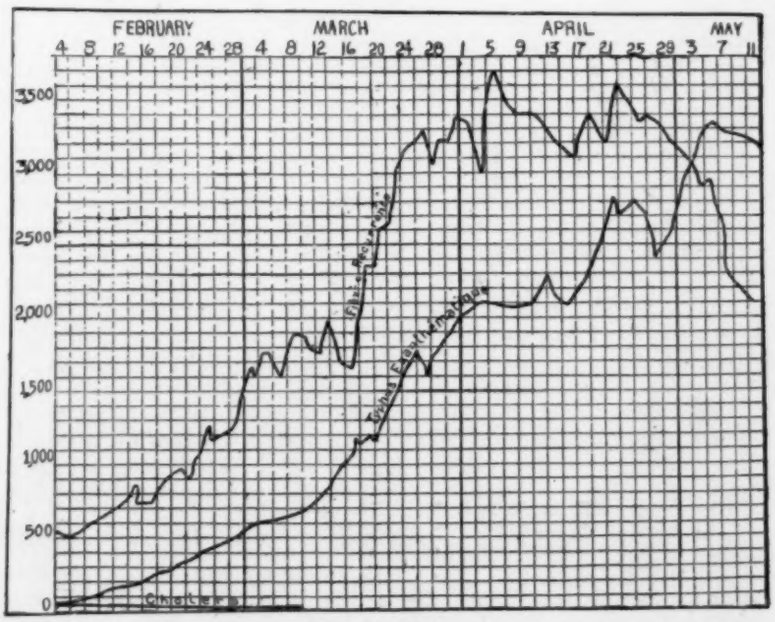


Fig. 2.—Incidence curves of typhus and relapsing fever in the Second Roumanian Army. The parallel character of the curves is of interest in view of the fact that both are louse-borne diseases.

in a population, including the armies, of something less than 5,000,000. Stories are told of horrors piled on horrors — of trains stagnating on congested tracks, while in box cars the people were packed so closely together that those who died could not fall and were removed only when at last the cars were emptied; of morning searches of the railroad stations and freight yards for the bodies of persons who had crept into corners and expired; of daily sights of people dying on the streets of Jassy, some from disease and some merely from starvation and exposure. Every hospital and improvised barrack was swarming with typhus cases, and as at first the rush of trouble was too great to permit of prophylaxis, infection spread throughout the buildings, taking not only wounded soldiers, but also doctors, nurses, orderlies and all divisions of the hospital personnel. In all places the same story of horrors is told. In all, the shortage of beds was so great that usually two beds were placed together to hold three patients across them, while often two more patients were laid on the floor underneath. So shorthanded were the hospitals that sometimes it was hardly possible to do more than to pick out the dead to find place for those who were still living. It is said that in the little city of Jassy as many as 500 died in a day. General Antoniu thus describes the condition in one lazaretto at this period:

Fig. 3.—Serb type of disinsector, as employed at the hospital of Dr. Manilescu at Strunga.

It was not a hospital but a morgue, where the sick perished pell-mell in their fecal matter, lying on the ground, or at best on a bundle of straw. One saw side by side cases of scarlatina and the first cases of typhus. It was really an aspect which recalled Dante's Inferno, and one certainly might have written above the door the famous phrase "Lasciate voi ch'entrate ogni speranza." The only latrine, which served both cholera patients and the others, as well as the hospital personnel, was surrounded by a zone of fecal matter five yards wide.

Fortunately, not all places were so badly cared for as this one, but at the best the situation was desperate. The typhus was on and inside the hospitals before one knew it, and had infected the wards before deparasitization could be introduced efficiently. Hence the morbidity among the physicians was high, and, as always is the case, the overworked physicians always furnish a higher mortality figure than their patients; here 40 per cent. of the infected physicians died, 200 out of an entire medical force of about 1,200, while the general mortality figure was only about 20 per cent. How many nurses and other hospital workers died we could not learn; but there were many, and we heard of no shirking of the horrible tasks and dangers of the pest-ridden hospitals. Even the queen insisted on her visits to the hospitals, and still allowed her adoring but infectious subjects to kiss the royal hand.

From the start the fight against the epidemic was hampered by lack not only of trained workers, but of materials, often of the simplest sorts. To check typhus the only material needs are baths, petroleum, hair cutters, fire and clean clothes; but even such simple requirements could not always be met. In one place no petroleum or other insecticide could be obtained; in another, wood was lacking for fires with which to deparasitize the clothes, and in some practically everything was lacking. Of course these conditions were soon remedied in the hospitals, but it took longer in the barracks and especially in the villages. The practice of the peasants of huddling close together in winter for warmth was exaggerated by the scarcity of food, fuel and warm clothes, and so the spread of infected lice increased. Especially disastrous were the first barracks erected for the retreating army. To gain warmth they dug into the ground with only the roof above the soil, and the men slept on a layer of straw covering the floor, lying close together for warmth. In these places infected lice had an uninterrupted march from one end of the place to the other, and the men came down by scores. And so in the course of a month the disease had spread throughout the country, adding a supreme misery to already unbearable conditions.

Fig. 4.—Russian type of disinsector on left, communicating with underground baths, at Adjud.

It would seem that, in spite of the unfavorable conditions of nourishment and care, the epidemic was not of extreme virulence, for the mortality is estimated at

only from 16 to 20 per cent. It is generally accepted, however, that the disease was of a predominatingly nervous type, and even now one sees many striking types of late nervous manifestations in typhus convalescents. Many of the reports of these cases have been collected and studied in his hospital for nervous diseases at Jassy, by Dr. Devaux of Paris. From the start the nervous system seemed generally to be most severely affected; the spinal fluid showed a high pressure and considerable leukocytosis, at first small lymphocytes and some polymorphonuclears, later predominatingly large mononuclears, and this polycytosis often continued for several months, at least in cases showing nervous lesions. At necropsy a gelatinous edema of the meninges is the most characteristic finding. Many of the deaths seem to be the result of bulbar paralysis. Even the cases of cardiac collapse seem to depend on involvement of the cardiac nervous mechanism, for the myocardial degenerations commonly described in typhus are not exhibited in these cases. Dr. Dimitri Jonescu states that the classical picture of suprarenal insufficiency, with a very low blood pressure, is often seen. Pneumonia was a common fatal complication. The number of cases of severe nervous lesions that we saw in the hospitals six months after the epidemic gives striking evidence of the profound injury to the nervous system, both central and peripheral. There are cases of actual hemiplegia, with and without partial aphasia, severe psychoses, and especially many paralyses with atrophies of the shoulder girdle and upper limbs. Devaux says that there are probably 200 cases of atrophy of the forearm, usually resulting in a typical main en griffe.

Fig. 5.—Typical barrack hospital, the chief type erected last summer. The walls are double, the space between being filled with earth for warmth in winter. The largest building in the foreground is the bath establishment.

Apparently nothing of great value was discovered in respect to treatment, which was necessarily symptomatic. In cases of collapse with low blood pressure, epinephrin is said to have been useful. Because of the immunity of convalescents to typhus, several attempts have been made to treat severe cases with the serum of convalescents; but the evidence for the value of this procedure is not convincing, although its logic entitles it to a thorough trial.

As to the early diagnosis of typhus, in addition to the usual symptoms of an acute febrile disease, the following points have been particularly noted by different observers: Often the tongue is covered with a bluish coating (like the porcelain tongue described in grip by Dr. Faisans). An important feature is the congestion of the face and redness of the conjunctivae. The symptoms may be brought out in the early stages by cupping: "On the colored ground where the cup has been applied, spots of bluish-violet coloration become apparent" (Antoniu). The eruption may also appear on the palate and fauces before it is visible on the skin. There is usually a considerable leukocytosis (from 20,000 to 30,000); and a distinct increase in mast cells, up to 1 per cent., is considered to be of diagnostic value (D. Jonescu). It is generally agreed that there is no regular relation between the severity of the eruption and the prognosis.

The crest of the typhus wave was reached in May and fell at the same rate at which it rose, so that in July there were still many cases. When we made our tour of the country in the last of September, the epidemic may be said to have disappeared, yet everywhere there were scattered cases to be seen. There was practically not a single hospital for contagious diseases that did not show one or more cases, and in some as many as ten or twelve were found. Even in Jassy there were said to be one or two cases, but we did not see them. In a few places we saw house epidemics — from two to four patients from one family. It was estimated that there were at this time about 200 cases in Roumania, nearly all in the small villages; the second army reported thirty cases. This was the vital point of the situation — the disease had been spread throughout the country, and the observed quiescence was far from an extinction of the epidemic, but represented merely the usual summer decline with

Fig. 6.—Typical interior of barrack hospital. The beds are made of three planks, affording a slight spring. The usual mud or clay stove is shown on the right.

the assumption of more hygienic outdoor life and the warm temperature that reduces the activity of the louse. Everywhere the disease was smoldering, waiting only for the resumption of winter conditions to break forth again. Beyond doubt there will be typhus again this winter — how much depends entirely on how effectively the disease can be restricted in each place in which it makes its appearance.

Fig. 7. — War dropsy; swollen feet and abdomen.

The peasants, who now almost exclusively harbor the disease, lived with few exceptions in small cottages and closely crowded together, especially in the winter. In common with all ignorant people there is always a tendency to hide the sick in order that they may not be taken away from the family to the hospital. The peasants have been known to hide typhus patients in the heavy thatched roofs of the houses. These conditions require that frequent house-to-house visits be made by people familiar with the population, who know how many there should be in each house and hence can detect such evasions.

Before the war there was an organized medical supervision of the country, which was divided into numerous districts, each under a chief physician and the necessary staff of division doctors. At present there remain in the hands of the Roumanians but thirteen of these districts, and the war has so demoralized the medical organization that the normal conditions of health supervision are approximated only in spots. The heavy demand for physicians in the army, and the loss of at least 200 physicians from typhus, has drawn away from the civil service nearly all the better men, so that now there remain for the civil population only a few, and to a large extent these are but the survival of the unfittest. Fortunately, there are a few exceptions to indicate what invaluable service a few good physicians can render.

RECURRENT FEVER

As mentioned before, an epidemic of recurrent fever accompanied the typhus, and was nearly as serious. Although a louse-borne disease, it presented some differences in epidemiology that are not readily explained. In the first place the recurrent epidemic preceded the typhus epidemic by about a month, both in its rise and in its fall. Also it affected the rural population relatively much more than the city population, although the vital statistics indicate that it was recorded earlier (November and December) in the cities. It seems to have spread less within the hospitals, especially among the physicians and attendants, than did the typhus. This epidemic of recurrent fever seems to have been unusually severe, with a mortality of about 10 per cent. For this high figure there are several reasons. In the first place, recurrent fever has a slow and protracted convalescence, as contrasted with the relatively rapid recovery from typhus. In a population devoid of proper food for invalids, insufficient clothing, and so little heat that it is reported that people froze to death in the hospitals, the successful convalescence from recurrent fever was difficult and often impossible. Physicians repeatedly told of losing many patients from cold and starvation, although the starvation was often from improper food rather than from an actual absence of any food whatever.

Many lives were lost because of the absence of adequate supplies of arsphenamin (salvarsan). It is agreed that arsphenamin is of great value in this spirochetal disease, and had it been possible to give every patient an adequate amount, the mortality would undoubtedly have been much reduced. But there was little on hand, and no more could be obtained. It is probable also that many of the cases recorded as recurrent were actually typhus with an irregular course, for under the existing conditions adequate laboratory diagnosis was difficult or impossible, although ordinarily the spirillum is readily detected in the patient's blood. The deaths were usually the result of complications, chief of which were the cachexia of cold and hunger, pneumonia and dysentery. Severe mouth infections were common, leading in some instances to massive necrosis of the inferior maxilla. Suppurative parotitis and otitis media occurred frequently. These complications probably depend on inadequate care of the patient's mouth, understandable under the prevailing conditions. As might be expected of so protracted a disease, tuberculosis has recently been appearing among those who recovered from recurrent fever last spring. For some reason this takes particularly the form of tuberculous pleurisy.

Fig. 8.—War dropsy; swollen feet.

EXTERMINATION OF VERMIN

Since Nicolle, Ricketts and others demonstrated the louse transmission of typhus, the war has given many opportunities to demonstrate conclusively that this disease can be absolutely controlled by exterminating the lice. In Roumania, physicians repeatedly recounted the fact that as soon as they had deparasitized (or, as the French say, disinsected) the patients in the hospital, and also all entering patients, the spread of the disease within the hospital was entirely checked. In

some hospitals in which the organization and facilities were adequate to meet the situation at the start, they got through without a single instance of crossed infection in the hospital or infection of a single member of the staff. Now in some well organized hospitals the typhus cases are not quarantined at all; for, in the absence of lice, typhus is not a contagious disease.

At the time of our visit to Roumania, every hospital was equipped to disinsect the patients, many of them admirably; and with very few exceptions all hospitals under Roumanian or French control were doing their work well. Because of superior organization, the army hospitals are especially well prepared, and it is reasonably certain that there will be no considerable number of typhus cases in the active army. Even far to the front, bathing equipment has been installed, often admirable. A sick or wounded soldier inevitably passes through a series of hospitals or triages, each of which looks after his disinsection. Hence, even the men at the front are not often infested with vermin, and they will surely be cleaned up in the passage back to the base hospital. Soldiers too severely wounded for thorough disinsection are cleaned as well as possible, and tagged as not being safe, so that they may be properly isolated and cared for subsequently. The routine plan of disinsection is usually as follows: At the first triage or hospital sufficiently removed from the front, the patient is stripped in an anteroom of the bath, his hair cut short, and the entire body anointed with petrol or some other parasiticide, after which a hot shower or tub bath is given. He is then given a clean hospital garment, or, if he is to travel farther, he is kept in a warm room until his clothes can be disinsected and returned to him. This disinsection of clothes is accomplished by heat, and the types of oven used are fundamentally three. One is practically a steam autoclave, which is efficient but generally of rather limited capacity, and usually it takes some time to get up the pressure. Many of these autoclaves are also seriously defective in that the clothes enter and are removed at the same end, which makes possible infection from parasites left outside the oven. Furthermore, the apparatus is expensive, complicated, and usually must be imported. More practical under existing conditions are the dry heat disinsectors of the Serb or Russian types. The former is usually built above ground, of brick or concrete, with a double wall that permits of an air space in which the heated air circulates. The clothes are hung on a rack mounted or hung on wheels so that it can be pushed into the oven and pushed out again, preferably with exit and entrance doors at opposite ends. These ovens are effective and practical, but are not altogether simple of construction. More readily built, and apparently becoming more popular, are the disinsectors of the Russian type. These are merely underground houses, with dirt and sod covering, in which the clothes are hung on racks and the chamber heated by hot air carried through in sheet iron pipes. These can be built by the peasants with almost no material, and have been found satisfactory. In some instances the heat escaping from the disinsector is used to warm the adjacent bath house.

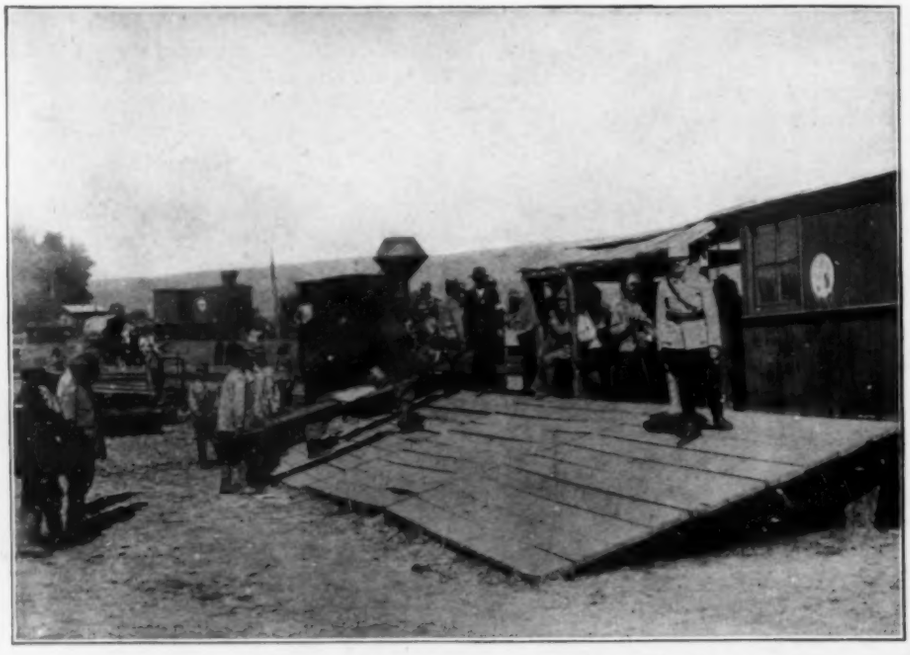


Fig. 9.—Hospital train on narrow gage road near the front.

An important factor in the success of these procedures lies in the fact that the Roumanian peasant has no inherent objection to cleanliness, nor does he consider lice either necessary or desirable accompaniments of physical well-being, as some other nationalities are reported to maintain. Furthermore, the discipline of the Roumanian army is as nearly perfect as could be wished, and the Roumanian soldier is a willing, patient, friendly worker, who is remarkably skilful in working with wood and plaster, building barracks, hospitals, baths, disinsectors, furniture, etc., all with few materials and great success. Hence the situation as regards epidemics in the army is excellent; and as there is little active fighting in the winter, when the epidemics threaten, there will probably be entirely adequate hospital facilities for the army, with probably much space available for the civil population. Many new barrack hospitals have been erected with double wooden walls, between which a thick layer of dirt is placed to insure warmth. Every large schoolbuilding, and many villas, warehouses, etc., having been converted into hospitals, this part of the situation is well provided for. The danger, so far as the army is concerned, is in the reserves quartered in the villages where they will be exposed to the infections arising in the civil population. And it is in just this zone, where the soldiers, refugees and evacuated families are added to the native population, that the overcrowding and underfeeding are worst.

OTHER INFECTIOUS DISEASES

Of the other infectious diseases, the most important is typhoid. During the past summer this was quite extensive everywhere in the country, arising in isolated foci rather than in distinct epidemics. This

suggests that the infection came from carriers rather than from infected large water supplies, and it is highly probable that flies play an important part in the distribution. The country is infested with a plague of flies that is bad beyond description. The natives say that this is a new condition resulting from the disorganization of war. Horses and oxen are quartered everywhere, and there is no transport for removal of garbage and filth. Toilet facilities are commonly most primitive or nonexistent, and the peasants do not seem to be concerned about the flies anyway. In some of the hospitals we found conditions as to flies as bad as it is possible to imagine — typhoid and dysentery patients lying with their heads and faces, their food, their bedclothes, and often their excreta, swarming with flies. As much milk and cheese are eaten by the peasants, this source of infection is probably important. Presumably the conditions would be much worse but for the extensive prophylactic vaccination that has been practiced. Here, as elsewhere, the value of this procedure has been repeatedly and abundantly demonstrated. An especially striking case is furnished by the present high incidence of typhoid among the Roumanian officers; for example, in one hospital there were 156 cases of typhoid, of which 100 were in officers and but fifty-six in private soldiers. The reason for this lies in the fact that for soldiers vaccination was compulsory, but optional for the officers, and many of the latter refused it because of the temporary discomfort. The civil population has been vaccinated as much as possible, and recently in Jassy this was stimulated by issuing sugar cards only to persons who had typhoid vaccination certificates. It seems that in many instances vaccination does not protect for more than six months, numerous cases appearing after that time. In the vaccinated, typhoid has been mild and of brief course.

The water supply of the larger Moldavian towns is excellent. The supplies of Galatz, by sedimentation and filtration of the muddy Danube water, of Piatra Neamt, by ozonization of a fine mountain water, and of Jassy, by underground collection of mountain water filtered through natural gravel beds, might each be used as models of city water supplies of different types. Their existence is evidence that there is at least some public health policy in Roumania.

We found a moderate amount of bacillary dysentery, but not enough to constitute a serious condition. In some places we were told that the infections were of the Shiga, in others of the Flexner type. There is no amebic dysentery.

During the past summer there has been a widespread epidemic of a mild form of icterus, it being estimated that there have been two or three hundred thousand cases. It involves all strata of society, in all parts of the country, and hence dietary factors can be excluded, although at first the use of black bread was suspected of being the cause. When four members of the royal family, all living in different places, came down with the disease, the black bread and starvation theories were given up. The disease begins with a febrile attack, often quite sharp and suggesting typhoid. After a few days the fever falls and the icterus appears, wherewith the subjective symptoms, of which prostration is often severe, improve. The patient is then usually able to be about after a few days, despite an icterus that is often quite marked and usually persists for two or three weeks, during which time the patient is somewhat apathetic, dull and depressed, as in the usual catarrhal jaundice. Undoubtedly this is a specific infectious disease; but several competent bacteriologists have sought for the etiologic factor in vain. The disease suggests often a mild typhoid or paratyphoid, and in a few cases paratyphoid bacilli have been cultivated from the blood and spleen. But as this has been obtained exceptionally, and as typhoid and paratyphoid infections may result in icterus, it is possible that these cases were not of the prevailing type of icterus, but merely cases

Fig. 10—Interior of hospital in private indoor tennis court at Ghidijeni. The Princess Marie, of Roumania, is standing at the right of the table.

of paratyphoid with jaundice. The disease has of itself no mortality; a few icteric patients have died of other diseases or complications. It has nothing except the icterus in common with the Weil's disease type of icterus in which spirochetes are found. No spirochetes have been found in Roumanian cases, and apparently the severe form of icterus hemorrhagica does not occur here often if at all.

Two infectious diseases common in other parts of the world have spared Roumania — epidemic meningitis and poliomyelitis. Both have been rare during the war. It is even said that scarlatina, which is reputed to be exceptionally severe in this country in normal times, has been less severe than usual; but we could secure no accurate information on this. There are occasional and increasingly frequent cases of smallpox, which hitherto was an almost unknown disease; but the population seems to be generally well vaccinated.

good flavor. Another favorite dish is a sour vegetable soup made with a stock prepared by fermenting bran (usually wheat, but sometimes rye or maize), which has a pleasant sour taste. Even in peace times the peasant eats little meat, but each family ordinarily has numerous chickens, ducks and geese, and a sow with her family, from which they get a small amount of meat and some fat, although most of these food supplies are sold. Smoked fish also are much used as a source of protein and fat, and beans are eaten extensively. It is said that the peasants who get such a mixed diet as is indicated above do not develop pellagra, and this disease rarely if ever arises in city dwellers, with whom mamaliga is not a chief article of diet. But, according to the prevalent belief, when the diet becomes for some time largely restricted to mamaliga with few accessories, pellagra appears. It is generally stated that the disease is now exceptionally prevalent, and assuming an unusually acute form.

Fig. 11.—Typical Red Cross hospital near the front.

Malaria has always been prevalent, but not of a malignant type. It does not seem to have been augmented during the war.

DEFICIENCY DISEASES

One of the most serious conditions is presented by the deficiency diseases. Pellagra, as stated before, has always been common, presenting the usual identity of distribution with a preponderatingly maize diet. Here no one questions the etiologic relation of maize and pellagra, the only question being whether or not disease or deterioration of the maize is responsible. Apparently, the Roumanian peasant eats maize only in two forms — to a slight extent as parched corn, but chiefly as mamaliga, which is nothing but a rather solid corn meal mush, made of too coarsely ground meal, often ground at home in a small wooden crushing machine and then with mortar and pestle. Usually this serves as the basis of nourishment, the chief accompaniment under normal conditions being a white cheese, made usually of sheep's milk, and of

Most noteworthy is its frequent appearance in young children — we saw groups of war orphans in which the majority exhibited pellagra, and this is distinctly a new development. Also we observed much more pellagra among the refugees and evacuated population than among the people living in their own homes, which again testifies to its relation to food deficiency. The mortality among the pellagrins is very high, for they have little resistance to either infection or exposure.

Not only is the nourishment of the Roumanian now deficient in quantity, but, especially among the peasants, it is greatly deficient in variety and quality. A person may have enough corn to supply the theoretical number of calories, or to satisfy the more acute pangs of hunger; but evidently human beings cannot live long with corn as the sole, or even as the chief article of diet — as MacCollum showed was true even for cattle. And it is to be remarked especially that under the existing conditions as to milling and cooking, a very large proportion of the maize that is eaten is not

utilized, as demonstrated by the enormous, bovine-like evacuations, containing large fragments of corn grains, found everywhere in the frontier districts. Evidently the passage of these undigested masses plays havoc with the intestinal mucosa, leading to dysenteries of chronic and exhausting character.

Along with the acute pellagra there was beginning to appear in September, and apparently now for the first time, a severe form of edema. This resembles clinically an acute nephritis; but the urine is free from albumin. Usually the edema is preceded by an attack of diarrhea, at first with ten or twelve movements a day, then half as many, and continuing from one to three weeks before the edema develops. This involves the face and hands, but is more marked in the lower extremities. It is observed exclusively among those suffering severe privations, especially among the refugees and the evacuated, and among the same class of people that fall victims of pellagra. Presumably it is the same condition that the Germans have described under the suggestive name of *Kriegsoedem*. Being a deficiency disease, a relation to the hydropic form of beriberi is suggested and is probable; but we could secure no evidence of the occurrence of neuritis. We were told that about 50 per cent. of these patients recover on a proper diet, but they are extremely susceptible to all infections and die if exposed only a little to cold. When the edema appears in a pellagrin, death ensues quickly.

Scurvy has not been so serious as it is said to be in the Russian army. Possibly this is because the Roumanian peasant has usually secured a fair amount of fresh vegetables in his diet under even the worst conditions. Numerous physicians, however, have reported that scurvy seems to be increasing, and this disease is now feared because much of the normal supply of peas, beans and fresh vegetables, while still green, have been used by the Russian armies as fodder for their horses, and hence a deficiency in these foods is anticipated.

These deficiency diseases were even in September and October playing havoc among the refugees and the evacuated population. In the villages and camps where they were crowded, as many as twenty in a room, we found many of them dying solely because of the insufficiency of proper food. The sights we saw in some of these places were tragic beyond belief — women and children swollen with famine dropsy, ulcerating with acute pellagra, emaciated to skeletons with dysentery. One dreads to contemplate what the conditions will be when cold weather comes, for reports in November and December indicated that they were growing progressively worse.

OTHER SPECIAL DISEASES

Other special diseases do not seem to be of great importance. Tetanus is rare, probably because the soil is not heavily manured and antitoxin is generally given prophylactically. Gas gangrene is also uncommon. Trench foot occurs, but less often than on the western front.

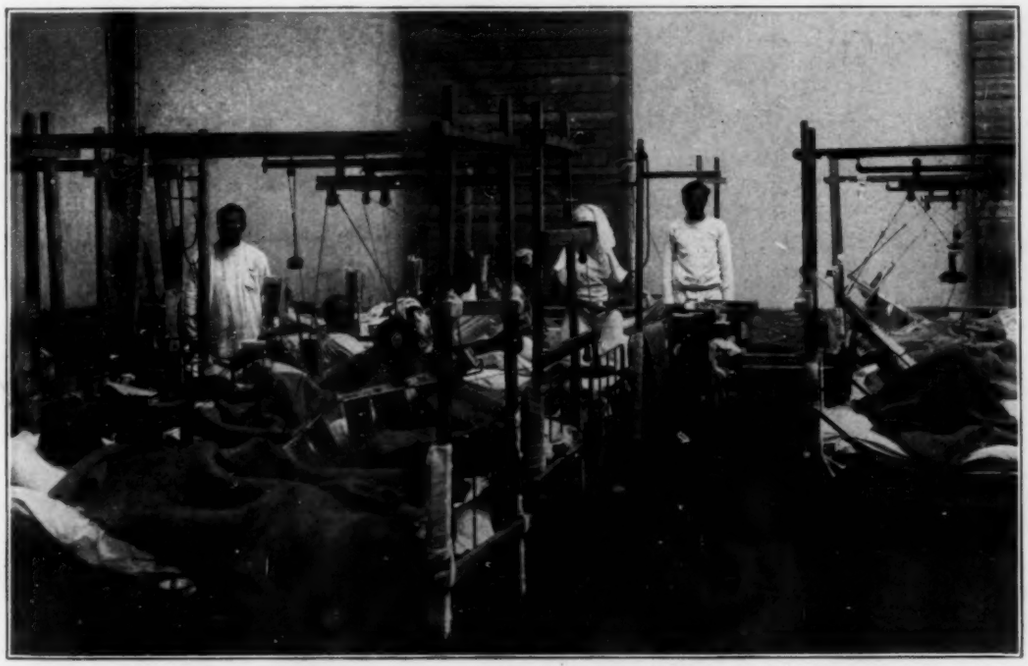


Fig. 12.—Fracture ward in hospital at Ghidijeni.

Tuberculosis seems not to have been a particularly serious plague in Roumania before the war, despite the habits of anaerobic existence often practiced by the peasants. There has never been a systematic campaign against tuberculosis; but just before the war a beginning was being made in the establishment of a dispensary system, and two or three sanatoriums. There seems to have been an increase observed since the beginning of the war, although part of this may be ascribable to more general physical examination of soldiers and recruits. Tuberculous pleuritis and adenitis are especially frequent, and closed forms of tuberculosis predominate, which supports the theory that the Roumanian has a good resistance to tuberculosis. As mentioned before, it seems to occur particularly often in those who have had recurrent fever.

From the foregoing summary it can be seen that the two greatest dangers for Roumania, from the medical standpoint, are typhus and the deficiency diseases,

especially the former. The Roumanians are entirely familiar with the situation and know how to cope with it. All they need is a little material help in the form of supplies, and some supplemental medical reinforcements. A nation which can arise from a crushed condition such as existed last December, fight through two such plagues as cholera and typhus, bear the burden of a vast, inert, hungry foreign army, and with the aid of a thousand stimulating and inspiring Frenchmen reestablish itself so that seven months later it can hold off the concentrated attacks of Mackensen's army and pile up from 60,000 to 80,000 German casualties is entitled to all respect and to every possible help. As a matter of fact, all that Roumania asks is to be given sufficient aid to keep the breath of life in her people — this done, they can be counted on to withstand the enemy and to develop themselves steadily in strength and efficiency. Their heroic reorganization and resistance despite apparently insurmountable difficulties constitutes one of the most splendid episodes of the war. They are certainly worth keeping alive; but the vital statistics show that this is at present far from being done, for the death rate averages fully five or six times the birth rate in the towns that we investigated.

RECOMMENDATIONS

To meet these problems, we therefore recommended that: A sufficient number — about 100 — thoroughly competent Roumanian physicians should be detached from the military service and detailed for the reorganization of the civil sanitary service and its proper maintenance until the end of the war. These physicians should be selected by the civil sanitary service from men known by them to be competent for this special work. A suitable personnel of sanitary orderlies should also be detailed from the army to act under these physicians, and should be selected with great care from persons having had experience in this line.

Fig. 13.—Group of refugees. Grandmother and two grandchildren with pellagra. Infant eating parched yellow corn from the cob.

All military hospitals, wherever situated, should be thrown open to civilians for the care of typhus-infected persons or suspects. The military disinsectors, baths and bath trains should be available for the civil authorities to the end that they may be worked on full time and may supply the needs of villages accessible to the railroads and near the hospitals. The disinsectors and baths of the civil sanitary service already in existence should be more fully used, and the incomplete ones finished as soon as may be. Automobile transportation to carry the peasants from the villages to the trains and to other places where disinsection is practiced should be supplied in adequate amount and with suitable personnel. A chief of disinsection should be appointed with authority over all the means available for combating typhus, with such transportation facilities that he can supervise and control the entire work.

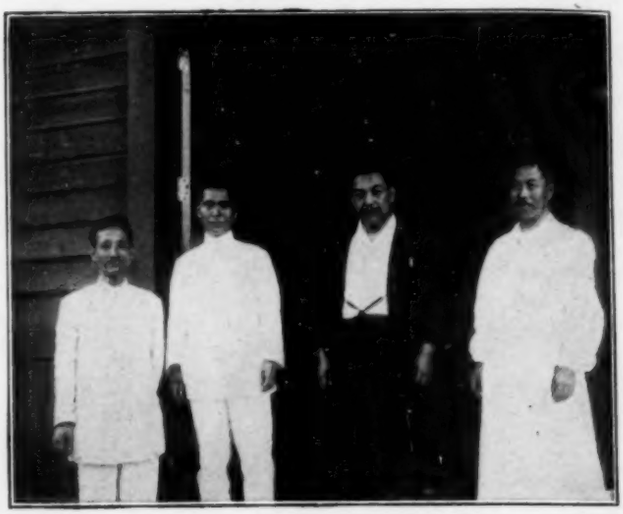


Fig. 14.—Members of the staff of Professor Kitasato's laboratory in Tokio. Reading from left to right: Professors Miyajima, Hata, Kitashima and Shiga.

Certain of these orders were already nominally working, but practically in only one or two small areas; finally new orders were issued, and Major Bordea, formerly chief hospital inspector in the civil sanitary service, was appointed in charge of the work. At the military hospitals and barracks the disinsectors and baths were put at his service, together with twenty-eight bath trains, formerly used only by the military.

It had been thought necessary to ask for the appointment of a number of American surgeons to replace the men released from the front; but in the absence of offensives and in the uncertainty of conditions, especially in regard to the Russian troops, this became inadvisable, as there were actually enough Roumanian surgeons to care for the work without interfering with the efficiency at the front. It was further planned to avail ourselves of a group of motor ambulances detached to our service from the Siberian Corps of the Russian Red Cross; but the cessation of hostilities freed sufficient ambulances and trucks so that the work could be carried on with the material available. Captain Bakeman, who had been

with the American state department at Moscow, and who, both through his training and as a sanitary engineer and his experience in the Serbian retreat, was eminently suited to this work, was appointed to carry on the work in association with Major Bordea at the departure of Major Perkins.

Provided, on the one hand, there is no serious offensive on the part of the enemy requiring the withdrawal of the surgeons released to care for the wounded, and on the other hand, that it is not necessary for the civil population to evacuate the country, the physicians, the means of disinsection and the transportation facilities at present available are such that the epidemic of typhus during this winter, while it cannot be entirely avoided, should be of a very moderate degree.

As the conditions of famine and lack of clothing were such as to make the resistance against disease, especially against typhus, very low, plans were also made to establish distribution of food, both in connection with the disinsection in the villages and as a separate function in the districts near the front. Transportation conditions in Russia and the impossibility of obtaining material in the United States made this very difficult; but about 3,500,000 salt fish were obtained from Archangel, and a number of carloads of cornmeal, sunflower oil and other supplies were acquired in Odessa, Moscow and elsewhere. At the time of the departure of Major Perkins, distribution of the material, together with clothing, acquired partly through the offices of the American Red Cross Commission to Russia and partly through the activities of our own staff, had been begun; but at the very best it would affect only a small proportion of the people. It was hoped, however, that it might be possible to purchase and bring in more supplies through the same agencies used to get the first lots.

Fig. 15.—Private car of Red Cross Mission, swarming with Russian soldiers on roof and steps. All trains in Russia were thus overloaded, and generally packed inside to standing room limit.

SUMMARY

The conditions in Roumania, as noted by us, showed a terrific lack of suitable food and clothing, and a rather widespread distribution of typhus cases throughout Moldavia, merely waiting the development of winter conditions to start up a new epidemic. To meet these conditions we attempted to unify the three existing medical services of the country to meet the typhus menace, and succeeded in having placed in control a single one of their own men, who could carry on the work with the advice and cooperation of the American mission but not under its orders. We also endeavored to procure enough food and clothing to popularize the enforced disinsection to some degree by small gifts to the disinsected, and to take the edge off of the famine in the worse districts. In the second week in December the work had been begun and, if not interfered with, should have the result of keeping the epidemic moderate and of saving many from death by famine, provided the interval before the country is once more accessible is not too long delayed.

Fig. 16.—Typical peasant's cottage and refugees.

The hospital at Roman under the charge of Kirkpatrick, in addition to its efficient surgical and medical work, in which it had established a model for all Roumania, offered every assistance to the plans against typhus, acting as one of the centers of distribution and of education.

Comparison of Draft Rejections.—The statement sometimes made that the average of health of the young men of the country is lower than it was at the time of the Civil War, as shown by the percentage of rejections in the recent selective conscription, has been disproved by the showing of Provost-Marshal-General Crowder in his report to the Secretary of War. Of the 2,510,706 men examined in the first call of the present draft, 730,756 were rejected on physical grounds, which is 29.11 per cent. In the Civil War 31.69 per cent. of the men drafted were rejected. Commenting on this editorially, the *Ohio Public Health Journal* quotes General Crowder to the effect that in view of the advance in standards of medical diagnosis since the Civil War, the figures indicate a decided improvement in the physical condition of the young men of the nation.

AQUEOUS SOLUTIONS OF POTASSIUM AND SODIUM IODIDS AS OPAQUE MEDIUMS IN ROENTGENOGRAPHY

PRELIMINARY REPORT

DONALD F. CAMERON, A.M., M.D.
Fellow in Surgery, University of Minnesota; Assistant Surgeon, M. R. C., U. S. Navy
FORT WAYNE, IND.

Emulsions of the insoluble salts of bismuth and barium have proved to be very satisfactory mediums for the roentgen examination of the gastro-intestinal tract. Emulsions, however, are not so satisfactory for similar examinations of the genito-urinary tract, in which it is essential to have a stable, homogeneous medium of as low a viscosity as possible. Nontoxicity and opacity to the roentgen ray are, of course, the prime essentials for such mediums. Nontoxic colloidal solutions of heavy metals, also even a few emulsions, such as that of silver iodid, have proved to be quite satisfactory. But on account of some of their physical properties, not to mention difficulty in their preparation, none of these mediums has proved to be ideal.

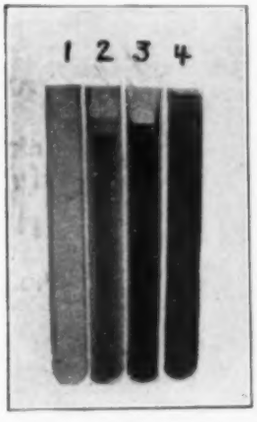


Fig. 1.—Roentgenogram of solutions of varying strengths. Dilution or strength: 1, water; 2, one-eighth; 3, one-quarter; 4, one-half. A 50 per cent. aqueous potassium iodid solution is called full strength.

In the spring of 1915, Burns published his first report of the use of thorium nitrate in pyelography. This solution has a number of advantages over the mediums in common use before. This solution can be prepared with very little difficulty, since it is necessary only to neutralize with sodium hydroxid the aqueous solution of thorium nitrate, in the presence of a sufficient amount of sodium citrate to prevent the precipitation of the thorium. Burns[1] later made an extensive report on the preparation and use of this solution, which has proved to be very satisfactory in pyelography. Salts of thorium, however, are often unobtainable at drug firms without a special order, and some care is necessary in making a satisfactory solution. A more common and inexpensive substance whose aqueous solution is neutral would be preferable.

A year ago, while I was considering systematically the common chemical substances that might be used for this work, soluble salts of bismuth, if suitable solutions could be made, and potassium or sodium iodid seemed most promising. Bismuth, being a heavy metal, was known to be opaque to the roentgen ray, and should be satisfactory if a neutral, nontoxic solution of one of its salts could be obtained. Potassium and sodium iodids seemed promising since they form a neutral solution in water, and theoretically any iodin-containing substance should be opaque to the roentgen ray, since iodin has a high atomic weight.

Stable and practically neutral solutions of bismuth can be made with some difficulty, it being necessary to have a high concentration of sodium citrate or of Rochelle salt present to prevent the precipitation of the bismuth. Even this does not prevent the precipitation in an absolutely neutral solution. It is necessary to keep the solution either slightly acid or alkaline in reaction. However, with such a solution, excellent pyelograms were obtained in the lower animals. But it would not be practicable to use such a solution in routine procedures, because of the difficulty in its preparation, but chiefly on account of the fact that the soluble solutions of bismuth made seemed to have a slightly irritative action. While this was being more thoroughly investigated, I was called in active service in the Navy, and the problem was dropped.

Recently, however, it has become possible, with the assistance of Dr. Charles C. Grandy, to investigate the properties of aqueous solutions of potassium and sodium iodids.

A 50 per cent. solution of potassium iodid, made of potassium iodid, 50 gm., and distilled water, 50 c.c., was found to be almost completely opaque to the roentgen ray. The solution is perfectly clear and is strongly saline in taste but not irritating to the tongue. It has a low viscosity, can be readily sterilized by boiling, and is miscible with urine and blood without causing any precipitation or coagulation. The opacity of more dilute solutions was tested. For convenience, a 50 per cent. solution is called "full strength;" one volume of this diluted with one volume of water is "half strength." It is important to note that this

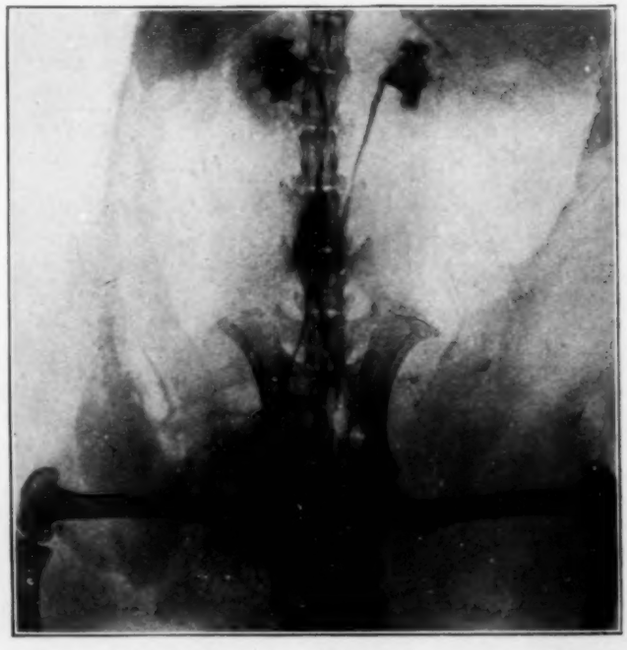


Fig. 2.—Guinea-pig urinary tract filled with a 50 per cent. potassium iodid solution. There is some extravasation at the point of injection. The injection was made under some pressure, a procedure that should never be employed in the human subject.

"half strength" solution contains more than 25 per cent., by weight, of potassium iodid, owing to the high specific gravity of the 50 per cent. solution used in the dilution. A "half strength" solution casts a very dense shadow, and that of the "quarter strength" is well defined. Figure 1 is self explanatory. It was also found that similar solutions of sodium iodid were just as satisfactory.

The important question as to the possibility of these solutions causing toxic effects or local irritation is being thoroughly investigated. Though from the

1. Burns, J. E.: Thorium: A New Agent for Pyelography, Bull. Johns Hopkins Hosp., 1916, **27**, 157.

nature of these substances no such effects are anticipated, it cannot be stated now that they are entirely innocuous. We may say, however, that we have used solutions of high concentration in the kidney pelvis of lower animals, and have used a 15 per cent. solution in the human bladder, and no undesirable effects of any nature have been encountered. Excellent roentgenograms were obtained in all instances.

From theoretical grounds, the only undesirable feature of these solutions is their high osmotic pressure. An ideal solution should be practically isotonic with urine. But hypertonicity is not always a serious objection. The thorium solutions used, for example, are strongly hypertonic. Since the opacity of elements to the roentgen ray seems to be a function of their atomic weights, it is evident that the iodid of a heavy metal would be much more opaque than that of potassium or sodium. Such solutions of the same opacity as that of the corresponding alkali iodids would have a much lower osmotic pressure. However, the heavy metal salts tried were found to have seriously objectionable properties, such as being insoluble or forming precipitates when mixed with urine or possessing irritating or toxic properties. It is worthy of note that the opacity of the silver iodid preparations that have been commonly used is probably due to the iodin rather than to the silver content.

Theoretically, a suitable solution of some substance like iodoform would make an excellent medium for pyelography. This substance would be very opaque in dilute solutions because of the presence of three atoms of iodin in each molecule. Emulsions of iodoform have proved to be satisfactory as far as opacity is concerned.

Within as short a time as possible, Dr. Charles C. Grandy, roentgenologist at the Lutheran Hospital, Fort Wayne, and I will make a more extensive report of the clinical use of aqueous solutions of potassium and sodium iodids in roentgenography.

SUMMARY

1. A 50 per cent. solution of potassium or sodium iodid of the depth ordinarily used in roentgenographic work is almost completely opaque to the roentgen ray. If such a solution is for convenience called "full strength," the half and quarter strengths cast very definite shadows.

2. These solutions are made with little trouble or expense. They are stable, saline to the taste, but not irritating except on areas freshly denuded of epithelium. They are miscible with urine and blood without causing precipitation or coagulation. The simple aqueous solution is neutral in reaction and is easily sterilized by boiling.

3. Good roentgenograms of the human bladder filled with a 15 per cent. potassium idodid solution, and of chronic sinuses filled with a 50 per cent. solution, have been made. No bad effects have been noted. A 25 to 30 per cent. solution should be sufficient for good pyelograms. Caution, however, should be observed in the use of these solutions in human subjects until further study of their effects has been made.

Owing to the uncertainty of military service, it was thought best in order to establish priority to publish now this preliminary though incomplete report.

SACRAL TABES WITH THE CLINICAL PICTURE OF A LESION OF THE CONUS MEDULLARIS

REPORT OF CASE

G. B. HASSIN, M.D.
Attending Neurologist, Cook County Hospital
AND
E. P. CARROLL, M.D.
CHICAGO

In tabes dorsalis, the pathologic changes are usually confined to the posterior roots of the dorsolumbar region. Such a localization of the morbid process very well explains the classical signs and symptoms of this disease, as loss of knee jerks, shooting pains, and disorders of sensibility in the lower limbs. Yet there are cases of tabes in which the lesion principally affects the cervical, the lumbar or the sacral regions, and it was customary with the older authors to classify various forms of tabes according to its localization. Thus they differentiated cervical, dorsal, lumbar and sacral tabes. As a rule, however, such a classification

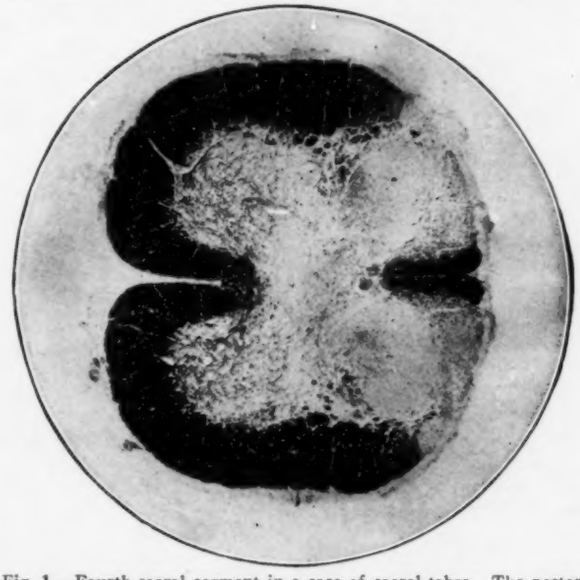


Fig. 1.—Fourth sacral segment in a case of sacral tabes. The posterior columns show on each side of the septum a triangular bundle of normal fibers (median triangle or dorsomedial sacral bundle).

does not always hold good, as the symptomatology of tabes is mostly due to scattered or, as Redlich[1] pointed out, to segment-like lesions of the cerebrospinal system, as evidenced, for instance, by the simultaneous occurrence, in the majority of tabes cases, of lost tendon reflexes, Argyll Robertson pupil, cerebral nerve involvement, anesthesia of the chest, etc. Therefore, Leyden insisted that a classification of tabes, based on the seat of the pathologic process, is not justified. True as Leyden's assertion may be, cases are occasionally encountered in which the clinical picture is so unusual that a localization of the disease process should be specified. Here belong cases of so-called sacral tabes in which the lesion is principally confined to the sacral roots. In the case reported, the exclusive involvement of the latter produced a classical picture of a lesion of the conus medullaris, that is, of that portion of the spinal cord which comprises the lower three sacral segments.

1. Redlich, Emil: Die hinteren Wurzeln des Rückenmarks und die pathologische Anatomie der Tabes Dorsalis, Jahrb. f. Psychiat. u. Neurol., 1891, **11.**

REPORT OF CASE

History.—A white man, aged 42, a laborer, entered Cook County Hospital, Oct. 8, 1917, in the surgical service of Dr. Daniel Eisendrath, complaining of incontinence of urine and feces, and ulcers of the feet and buttocks. About six and one-half years previously he had been seized with sudden pain around the body at the level of the hips, and general numbness from the navel down to the ends of both lower limbs. At the same time he lost control of the bladder and the rectum, and the feet became swollen and painful. A month

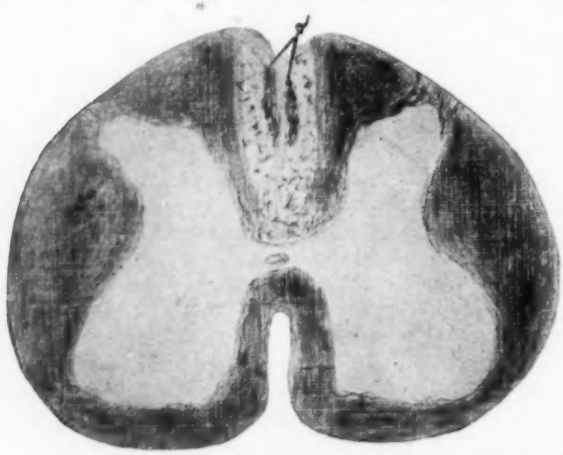


Fig. 2.—Third lumbar segment in a case of sacral tabes. The light area of the posterior columns contains two bundles of normal fibers (*a*, the oval field of Flechsig).

afterward, ulcers appeared on the heels and buttocks. About a year before the patient entered the hospital, a fresh ulcer developed on the sole of the left foot, near the heel. The ulcers did not cause any pain, but did not yield to treatment, and were progressively getting larger, though the patient was able to walk up to the time of his entrance to the hospital. In addition to the incontinence and ulcer formations, the patient suffered from a phimosis of six years' duration. Any other diseases except a sore on the penis about seven years before, were denied.

Examination.—The patient was very poorly nourished and anemic. The mentality, speech, gait, cranial nerves, heart, lungs, and the muscular and bony systems showed no abnormalities, aside from slight atrophy of the left leg. On the sole of the left foot, near the heel, was a large sinus discharging foul-smelling pus. About 2 inches from the anus, on each side, were two large ulcers, the size of a silver dollar, with indurated edges, also discharging pus. On the posterior surface of the right thigh there were two large scars with irregular outlines (gummas?), and the penis appeared red and swollen, and showed an adhesive, indurated phimosis. The left foot was cold, cyanotic and edematous. Active and passive movements and the muscle power in the upper and lower extremities were good; the pupillary, skin and tendon reflexes, except the Achilles tendon on both sides, were present, and the sensibility was normal all over the body exclusive of a saddle-like area that involved the perineum, anus, superior and inferior gluteal regions, scrotum, penis, and the posterior-inner surface of both thighs (about 5 inches), which regions showed a total anesthesia. The blood and spinal fluid both gave a negative Wassermann reaction, but other serologic findings have not been recorded. According to the hospital records, the patient had been an inmate of the institution four years previously with practically the same findings as recorded. They also revealed that the troubles started without any apparent cause—there was no history of trauma, syphilis, alcoholism, or of any other illness. During the patient's stay in the hospital, marked symptoms of pyelonephritis developed to which he succumbed, November 5, about four weeks after admittance.

Necropsy.—We thus had before us a patient that for six and one-half years had been continuously suffering from rectal, bladder and various trophic disorders. During these six and one-half years the symptoms were practically in a stationary state, and, coupled with the saddle-like anesthesia, indicated a lesion of the conus medullaris. In view of the history of a sore on the penis, and of the presence of suspicious scars on the thighs, we thought that the conus lesion was of syphilitic origin, probably in the nature of a syphilitic myelitis. The postmortem examination revealed, among other findings, a nodular syphilitic sclerosis and a slight saccular dilatation of the root of the aorta, a chronic hypertrophic cystitis, an acute suppurative ureteropyelonephritis, and macroscopically a perfectly normal spinal cord. There were no signs of myelitis of any kind, hemorrhages, meningeal involvement, or tumor. The sole striking feature was an unusual smallness of the spinal cord; but its configuration and the relation between the white and gray matter were normal. The removed portions of the spinal cord (the lumbosacral and dorsal regions) were serially studied with various stains, as the Weigert-Pal (for myelin fibers), Alzheimer-Mann method (for glia changes), Bielschowsky (for the axons) and Nissl modifications (for ganglion and possible infiltration cell changes). The study of the spinal cord with all these staining methods revealed a typical tabes solely confined to the sacral region. Only the sacral portion, especially the last three sacral segments of the spinal cord, showed the presence of so-called local tabetic degeneration signs in the form of a degeneration of the entrance zone, of Lissauer's zone, of the collateral fibers, etc., while in the lumbar and dorsal regions there was a secondary degeneration of the middle portion of the posterior column (Goll's column). The posterior columns in the sacral region, as seen on the photomicrograph (Fig. 1), show this middle portion to be intact. It has the shape of a triangle stretching from the posterior periphery of the spinal cord down to the posterior commissure and is described under various names, but commonly known as a "median triangle" or "dorsomedial sacral bundle." The rest of the posterior columns appear pale and degenerated, being the place occupied by the degenerated intraspinal fibers of the posterior sacral roots, very few of which are left undamaged. In the lumbar portion, beginning with the fifth, upward to about the second, the degenerated area of the posterior columns showed two small bundles somewhat oval in shape, occupying the place

Fig. 3.—Twelfth dorsal segment: degeneration of Goll's column (light, bottle shaped area), with undamaged fibers occupying the periphery (*a*). In the lumbar region they occupy the center of Goll's column, and are known as the oval field of Flechsig.

along the posterior septum and known as the oval field of Flechsig (Fig. 2). In the upper lumbar and lower dorsal region (Fig. 3), these fibers were pushed to the periphery, and in the lower middle dorsal region they totally disappeared.

COMMENT

As this is not the place for anatomic discussions, we shall refrain from further descriptions of the pathologic findings, which are clear enough from the appended illustrations. We wish only to point out

that the nature of the median triangle of the sacral region and of the oval field of the lumbar have been repeatedly discussed in the neurologic literature, and the conclusion generally arrived at is that they have nothing to do with the fibers of the sacral roots, as suggested by some, but that they contain descending branches of posterior root fibers from above, that is, from the lumbar, dorsal and, as Marburg[2] thinks, even from the cervical region. According to some observers (Gombault and Philippe,[3] Pineles,[4] Bickeles,[5] Obersteiner,[6] and others), they also contain endogenous fibers, that is, fibers arising from the gray matter of the spinal cord.

Thus cases of sacral tabes have an enormous scientific and practical value. Their scientific value lies in the fact that they afford unusual opportunities for studying the probable course of the sacral root fibers within the spinal cord, the nature of some ascending and descending fasciculi etc., a matter of great interest, but which cannot be discussed in this paper. The practical value is due to the fact that some cases of so-called conus lesion may be nothing but tabes. So far our case is the only one on record that strongly suggests such a possibility. The very few cases of sacral tabes, reported up to the present time (Gombault and Philippe,[3] Pineles,[4] Schaffer,[7] Achard and Levi,[8] Leopold[9]), differed from ours by the presence of some classical signs of tabes (Argyll Robertson pupil, loss of knee jerks, etc.) which, as we pointed out, were totally absent in our patient. The trophic disorders on the buttocks and heels we ascribed to the involvement of the conus, but they were the result of tabes, that is, a posterior root lesion. The presence of the knee jerk was due to the intactness of the lumbar portion of the spinal cord, which is the seat of that reflex. In short, the clinical picture as represented by our patient, which was that of a pure conus lesion, could very well be explained by the tabes which he actually had been suffering from for seven years or more. Hence it follows that in some cases of conus lesion when the usual etiologic factors, such as traumas of the vertebral column, hemorrhages of the spinal cord, meningomyelitis, tumors, etc., can be excluded, tabes should be borne in mind as the possible actual disease.

31 North State Street.

2. Marburg, Otto: Die Absteigenden Hinterstrangsbahnen, Jahrb. f. Psychiat. u. Neurol., **22**, 243.
3. Gombault, A., and Philippe: Contribution a' l'étude des lésions systematisées dans les cordons blancs de la moelle épinière, Arch. gén. de méd. expér. et d'anat. pathol., 1894, **6**, 365.
4. Pineles: Die Veränderungen im Sacral und Lendenmarke bei Tabes Dorsalis, nebst Bemerkungen über das dorso-mediale Sacralbündel, Obersteiner's Arb, 1896, **4**, 341.
5. Bickeles, G.: Zum Ursprung des dorso-medialen Sacralfeldes, Neurol. Centralbl., 1901, p. 531.
6. Obersteiner, H.: Anleitung beim Studium des Baues der nervösen Centralorgane, Wien, 1901.
7. Schaffer, Karl: Ueber Faserverlauf einzelner Lumbal- und Sacralwurzeln im Hinterstrang, Monatschr. f. Psychiat. u. Neurol., 1899, **5**, 220, 95.
8. Achard and Levi: Conservation des réflexes patellaires dans le tabes dorsalis, Nouv. Iconog. de la Salpêtrière, 1898, p. 83, Obs. VII.
9. Leopold, S.: Sacral Tabes: A Case with Necropsy, Jour. Nerv. and Ment. Dis., April, 1909.

THE DIAGNOSIS OF STONES IN THE BILE DUCTS BY MEANS OF THE WAX TIP

GOLDER LEWIS McWHORTER, M.D., PH.D. IN SURGERY
Instructor in Surgery, Rush Medical College
CHICAGO

After I had seen an ensacculated obstructing stone of the common duct at necropsy, which had been overlooked in several operations for the relief of severe biliary obstruction, an aid to the diagnosis of bile duct stones occurred to me. This method is the use of the wax-tipped filiform bougie in the bile ducts and is new in this application, though heretofore it has been used in the diagnosis of ureteral stones. In consequence of an impression or scratch mark being made on the soft wax impregnated on the end of a flexible bougie or probe, the presence of a stone and its location in the bile duct may be positively diagnosed.

The tip of a waxed bougie gouged by a stone in the common duct, and the gallstone that caused the scratch marks.

The wax tip was first used in the diagnosis of ureteral stones through a speculum in the female bladder.[1] Since the passing of the tip through the modern cystoscopes exposed the wax to scratches, it was temporarily discarded. Harris[2] states later that it is not improbable that ureteral exploration with the bulbous wax tip is more reliable than roentgenography. He developed a technic by means of which he avoided passing the tip through the instrument, by inserting the wax tip first into the bladder, threading the cystoscope over the filiform bougie, and, after testing the ureter, by withdrawing the instrument, previous to removing the wax tip. In the diagnosis of bile duct stones, it is comparatively simple to overcome this difficulty of contact of the tip with instruments.

Moynihan[3] says that stones in the hepatic duct are liable to be overlooked and that, as a rule, the lower in the duct a calculus is found, the smaller it is. If the common duct is dilated, he advises opening it and inserting a finger in search of stones. In order to prevent the frequent overlooking of stones, writers[4] have emphasized recently the opening of the common duct in many other conditions, as well as in dilatation. However, after internal search of the duct with finger tip and probe, stones are occasionally overlooked.[5] In the case I have mentioned, the common duct had been opened, and the ducts explored two or three

1. Kelly, H. A.: Diagnosis of Renal Calculus in Women, Med. News, 1895, **67**, 593.
2. Harris, B.: The Diagnosis of Ureteral Calculus by Means of the Wax-Tipped Whalebone Filiform Bougie Used with the Nitze Cystoscope, Surg., Gynec. and Obst., 1912, **15**, 727.
3. Moynihan, B. G. A.: Gallstones and their Surgical Treatment, Ed. 2, Philadelphia, W. B. Saunders Company, 1905.
4. Kehr, H.: Wann soll man nach einer Ektomie bei negative Palpationsbefund von Steinen im choledochus diesen Gang incidiren und drainiren und wann nicht? Arch. f. klin. Chir., 1912, **97**, 301. Eisendrath, D. M.: Overlooked Common Duct Stones, THE JOURNAL A. M. A., March 31, 1917, p. 968; The Silent Common Duct Stone, Med. and Surg., 1917, **1**, 507; Recurrence after Operations on the Biliary Passages, THE JOURNAL A. M. A., Nov. 24, 1917, p. 1752.
5. Gerster, A. G.: Unsuccessful Surgery in Disorders of the Gall-Ducts Together with a Consideration of Naunyn's Cholangiolitis, Surg., Gynec. and Obst., 1912, **15**, 572.

times for the cause and location of the obstruction, but the stone that finally caused death was not found.

The value of the wax tip for diagnosis of stones in such cases and in all cases of bile duct stones is due to the simplicity of preparation, to the short space of time required for its use, and to the fact that a scratch is the best possible evidence of the presence of a stone.

TECHNIC

After sterilization, from one-half to one part of olive oil is added to one part of dental wax. The end of a No. 3 or larger whalebone filiform bougie or metal probe is dipped into the liquid. On removal of the instrument, the drop clinging to the end will harden quickly; but if it is not of the desired size and contour, the procedure is repeated. Before exploring the ducts, one should examine the tip under a lens to be sure its surface is unscratched. After the tip has been passed through the common duct and the ampulla of Vater, it is removed, dipped in cold water, dried and examined under a lens. The same tip, if its surface smoothness is unchanged, may then be passed up into the hepatic duct and the branches to the right and left lobes of the liver. This duct and its branches, however, should first be explored with a scoop of proper size in order to remove any loose stones, which might otherwise be pushed farther into the lumen.

If at any time while passing the tip, one should observe a decided jump, the chances of obtaining a definite scratch, in the case of a partially ensacculated stone, would be increased by drawing the tip back and forth several times. It is possible to localize the stone more exactly by waxing the filiform bougie in rings at intervals from the tip, or, as Sampson suggests for ureteral stones, by coating the entire catheter with wax.[6] A metal probe may be used in a similar manner for further evidence as to the presence or location of a stone, or patency of the duct, and as an aid to external palpation; for when the wax-tipped metal probe is used, not only may the impression of the stone be left, but if it is passed in sharp contact, the wax may be pressed aside and the hard body felt against the metal. With the metal probe also, the wax may be put on in rings, leaving the tip free for palpating the stone.

122 South Michigan Avenue.

6. Kelly and Burnham: Diseases of the Kidneys, Ureters and Bladder, New York, D. Appleton & Co., 1914, **1**, 270, **2**, 126.

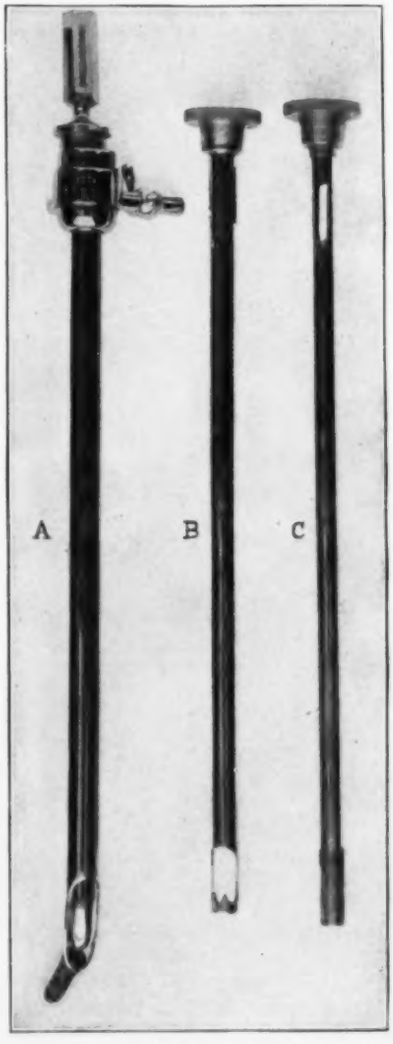
Medical Aims.—The highest aim of scientific medicine today is the eradication of preventable disease, and in the solution of this problem all men who have the interest of the human race at heart can and do write, regardless of medical schools or creeds.—Dr. George M. Kober.

MEDIAN BAR EXCISOR*

W. F. BRAASCH, M.D.
ROCHESTER, MINN.

It is generally recognized that urinary obstruction at the vesical orifice may be caused by various conditions other than prostatic hypertrophy. Such conditions may be divided into three groups, namely, contracture of the bladder neck, glandular and inflammatory tissue formation, and congenital obstructions.

Methods have been devised for removing the obstruction caused by contraction at the vesical orifice, such as the Chetwood and modified Bottini operations, and the Goldschmit technic. However, no method short of resection had been definitely suggested for the removal of obstructing glandular and inflammatory tissue until that described by Young in 1912. He demonstrated that such obstructions could be removed by endoscopic methods under local anesthesia, and without incapacitating the patient for more than a few days. The instrument he used was called a median bar excisor, and while the instrument was indeed a very serviceable one, the operator was handicapped by the fact that it did not permit of accurate inspection of the field of operation. As a result the instrumentation could not be accomplished under the guidance of the eye.



Median bar excisor.

It is a well known fact that it is impossible to obtain a satisfactory view of the prostatic urethra without the distention of the urethra, which may be accomplished by either air or water. Air dilation has proved unsatisfactory, so that water is the preferred medium. The median bar excisor I have been using for several years permits of clear inspection of the prostatic urethra with water distention. The instrument consists of three separate sheaths of decreasing caliber which are so arranged that the smaller sheath fits into the next larger. The outside sheath (*A*) is practically a urethroscope. The light is situated at the distal end in the beak, and it has an irrigating cock near the proximal end. The window is of plain glass without magnification and fits all three sheaths. The observer looks through the tube filled with water, after the principle employed in my irrigating cystoscope.[1] After the obstructing tissue is brought into view, the second sheath (*B*) is introduced. This has a collar at its distal end which is armed with two irregular teeth by means of which the tissue is held in place. The latter procedure is also under the guidance of direct vision. Then the inner or knife sheath (*C*) is

* From the Mayo Clinic.

1. Braasch, W. F.: A Neglected Principle in Cystoscopy, Am. Jour. Urol., 1912, **8**, 115-119.

introduced and the tissue cut while still in view. The blood from the wound is usually washed from the field by the rapidly entering irrigating fluid.

The advantages of this instrument are obvious. Without a visualized field, unless the operator is very expert, it is evident that the base of the bladder instead of the median bar might easily be cut.

The use of the median bar excisor should be limited to a small proportion of patients with urinary obstruction. The punch operation should be confined to cases in which the superficial median tissues obstruct the vesical orifice, and to occasional cases of involvement of the bilateral lobes in which enucleation is otherwise inadvisable.

PARTIALLY AUTOLYZED PNEUMOCOCCI IN THE TREATMENT OF LOBAR PNEUMONIA

RESULTS IN TWO HUNDRED CASES *

E. C. ROSENOW, M.D.
ROCHESTER, MINN.

The curative power of antipneumococcus serum in lobar pneumonia due to Type I pneumococcus appears to be established.[1] According to Cole,[2] of every 100 patients with lobar pneumonia admitted to hospitals, the infection in about thirty-five cases is due to Type I pneumococcus, ten dying if untreated. The remaining sixty-five cases are due to the other types of pneumococci, and in these, twenty deaths occur. Hence, about two thirds of the cases of lobar pneumonia, and two thirds of the deaths from the disease, are due to pneumococci, for which there is at present no specific serum treatment.

It has been established that heat-killed virulent pneumococci stimulate the formation of antibodies[3] and tend to protect animals against pneumococcus infections. Active immunization with heat-killed pneumococci[3] and various derivatives of pneumococcus cultures[4] have been used in small series of cases of lobar pneumonia, in some instances with seeming benefit.

There are numerous physicians with a keen perception of lobar pneumonia who feel that active immunization with pneumococcus vaccine, when the vaccine is given early in large doses, is of benefit. The disadvantage of heat-killed pneumococci in which the toxic material has not been removed is considered to be due to the primary negative phase which follows their injection. In connection with studies on the mechanism of pneumococcus infections and the nature of the toxic substance obtainable from pneumococci, attempts were made to separate, in part, the toxic from the antigenic fractions. It was found that the protective power against pneumococcus infections was greater with partially autolyzed pneumococci from which a large part of the toxic substance had disappeared than with heat-killed pneumococci.[5]

On the basis of these experiments, a method of active immunization with partially autolyzed pneumococci was developed, and its apparent value in the treatment of lobar pneumonia has been emphasized from time to time.[6] The mortality rate in 146 cases treated by Hektoen and myself in the Cook County Hospital, Chicago, during three consecutive winters, was 23 per cent., while in untreated alternate control cases it was 38 per cent. This was accomplished notwithstanding the fact that the average time of the first injection was four and one-half days after onset, and that the cases treated were of the most unfavorable type, a majority of the patients being addicted to the excessive use of alcohol. During 1914 and 1915, this pneumococcus antigen was sent on the request of physicians in different parts of the country, and reports of cases were rendered.

The stimulus for reporting our results at the present time is the prevalence of pneumonia among the troops in the concentration camps. I wish also to record a few of the experiments which led to the use of this antigen and to describe the method of its preparation and administration as now practiced.

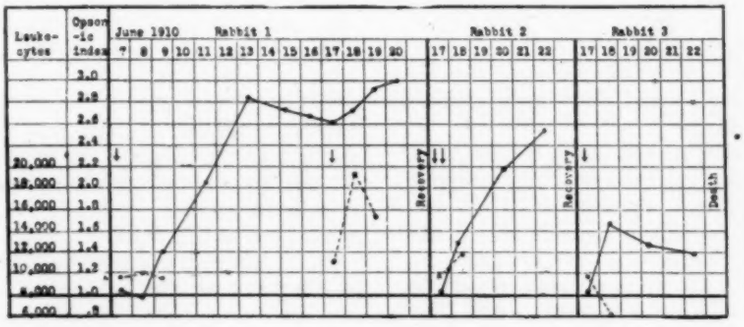


Chart 1.—Immunizing power of autolyzed pneumococci against pneumococcus infection in rabbits: continuous line, opsonic index for pneumococci; dotted line, leukocytes; arrows, time of injections.

EXPERIMENTS ON THE IMMUNIZING POWER OF VARIOUS AUTOLYZED FRACTIONS OF PNEUMOCOCCI

In Chart 1 are shown the opsonic and leukocyte curves and the protective action of autolyzed pneumococci against pneumococcus infection in rabbits.

Rabbit 1 was injected subcutaneously with 3 billion autolyzed pneumococci, and ten days later with a culture of a moderately virulent pneumococcus. Rabbit 2 was injected simultaneously with the same sized dose of autolyzed pneumococci and culture, and Rabbit 3 was injected with the culture only. Autolysis had

---

* From the Mayo Foundation.

1. Cole, R. I.: Report of Studies Concerning Acute Lobar Pneumonia, THE JOURNAL A. M. A., Aug. 18, 1917, pp. 505-510.

2. Cole, R. I.: Specific Treatment of Acute Lobar Pneumonia, Pennsylvania Med. Jour., 1917, **20**, 345-351.

3. Wolf, H. E.: Observations on Opsonic Index and the Antipneumococcal Power of the Blood in Pneumonia, Jour. Infect. Dis., 1906, **3**, 731-741.

4. Hirschfelder, J. O.: The Production of Active and Passive Immunity to the Pneumococcus with a Soluble Vaccine, THE JOURNAL A. M. A., Oct. 12, 1912, pp. 1373-1374.

5. Rosenow, E. C.: On the Mechanism of Intoxication in Pneumococcus Anaphylaxis and in Pneumococcus Infections, Tr. XV, Internat. Cong. Hyg. and Demog., 1912, **2**, 338-341; On the Nature of the Toxic Substance from Pneumococci, Jour. Infect. Dis., 1912, **11**, 235-242; Further Studies of the Toxic Substances Obtainable from Pneumococci, Jour. Infect. Dis., 1912, **11**, 94-108. In connection with elective localization studies it has been the rule to inject intravenously a number of animals with increasing doses of streptococcus cultures. The animals receiving the smaller dose, contrary to expectations, frequently died earlier than those injected with a dose two to three times as large. On studying this point more closely it was found to occur chiefly when freshly isolated strains were grown in glucose broth and when many of the organisms were dead, partially autolyzed, and had become gram-negative. In other words, dead, partially autolyzed bacteria injected simultaneously with living cultures called forth reactions which tended to protect against infection.

6. Rosenow, E. C.: The Autolysis of Pneumococci and the Effect of the Injection of Autolyzed Pneumococci, THE JOURNAL A. M. A., June 11, 1910, p. 1943.

been continued for ninety-six hours, and the clear extract had lost most of its toxic properties. Rabbits 1 and 2 recovered coincident with a high opsonic index for pneumococci and a sustained leukocyte curve. Rabbit 3 died coincident with first a slight rise in opsonin, and then a drop in opsonins and leukocytes. The results obtained simulated what occurs in nonfatal and fatal cases of lobar pneumonia.[3] By properly balancing the dose of antigen and the living culture, similar results were obtained in a series of experiments on rabbits and guinea-pigs. It was found

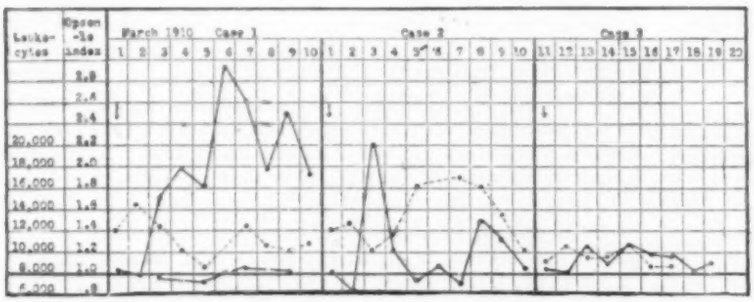


Chart 2.—Opsonic and leukocyte curves in three persons injected subcutaneously with various autolyzed fractions of pneumococci: continuous line, opsonic index for pneumococci; broken line, opsonic index for streptococci; dotted line, leukocytes; arrows, time of injections.

that if the dose of antigen was too large or autolysis was not carried far enough, death might occur earlier in the animals receiving antigen and culture than in those injected with the culture only. Protection was afforded in some instances even after intraperitoneal injection of the cultures.

Patient 1 (Chart 2) was injected with 5 billion partially autolyzed pneumococci, Patient 2 was injected with the corresponding clear extract, and Patient 3 with the extract after it had been treated with leukocytes. In the first case there were early rise in and a sustained opsonic index for pneumococci, no change in the opsonic index for hemolytic streptococci, little change in the number of leukocytes, no fever, and only slight local reaction. In the second case there were primary drop and then a transient rise in opsonic index for pneumococci, a slight increase in the number of leukocytes, a rise in temperature, and a moderate local reaction. In the third case there were no changes in opsonic index, leukocyte count or temperature, and no local reaction.

From these and other similar experiments it was concluded that partially autolyzed pneumococci had greater and more sustained antigenic powers than the more toxic extract, and that leukocytes had the power to destroy completely the antigenic power of the extract. The experiments on animals showed that the doses of antigen and culture needed to be balanced quite accurately in order to protect against the infection.

In Chart 3 are given the opsonic index and temperature curves of three persons injected with, respectively, 20, 40 and 60 billion autolyzed pneumococci. According to this experiment, the first dose (20 billion) was regarded as the most favorable, and this was the dose used in the treatment of patients during the winter of 1911.

METHOD OF PREPARATION AND ADMINISTRATION OF THE ANTIGEN

Injections of the extract of pneumococci when highly toxic are followed by marked local reaction, leukocytosis, some fever and a primary diminution in opsonins followed by a rise.[7] After autolysis has been carried to the point at which most of the toxicity of the extract has disappeared, the local reaction is slight, and antibodies increase more rapidly. The increase in antibodies following injection of the extract is not sustained or as marked as after injection of the partially autolyzed pneumococci (Chart 2). The injection of the former in a small series of cases of pneumonia proved harmless and, at times, beneficial.[8] Hence, both extract and autolyzed pneumococci are now used.

The antigen is prepared by growing virulent strains of pneumococci of the different types in tall columns of glucose broth for from eighteen to twenty-four hours, centrifugalizing, and suspending the sediment in salt solution, so that 1 c.c. contains the growth from approximately 15 c.c. of the culture, that is, about 15 billion pneumococci per cubic centimeter. The suspension of the sediment of the different strains is mixed and then placed in bottles so that the column of liquid is approximately 12 cm. tall. To this a layer 0.5 cm. of ether is added. The bottles are stoppered with sterile corks secured in place by strips of adhesive plaster, thoroughly shaken, and placed at 37 C. The suspension is thoroughly shaken at least twice a day as autolysis proceeds. Immediately after the addition of the ether and daily thereafter, a small quantity of the suspension is removed and the ether displaced by passing a current of air through the mixture. Films are stained by the Gram method, cultures are made, and intravenous injections are given to guinea-pigs. Autolysis is carried to the point at which approximately 95 per cent. of the organisms have become gram negative and to the point at which 5 c.c. of the suspension produce few or no symptoms in guinea-pigs weighing from 250 to 300 gm. If all the strains are highly virulent,

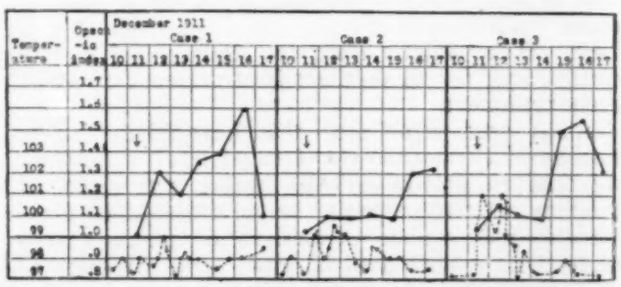


Chart 3.—Opsonic and temperature curves of three persons injected subcutaneously with various doses of autolyzed pneumococci: continuous line, opsonic index for pneumococci; dotted line, temperature; arrows, time of injections.

the toxicity of the suspensions usually disappears in from three to five days. When this point has been reached the autolysis is interrupted, the ether removed, and 0.25 per cent. cresol or phenol (carbolic acid) added. The antigen is then stored in the ice-chest. It is not used in the treatment of pneumonia until the guinea-pigs injected with the nontoxic suspension

7. Rosenow, E. C., and Hektoen, L.: Treatment of Pneumonia with Partially Autolyzed Pneumococci, The Journal A. M. A., Dec. 13, 1913, pp. 2203-2204.

8. Rosenow, S. C., and Falls, F. H.: Treatment of Lobar Pneumonia with Autolyzed Extracts of Pneumococci, The Journal A. M. A., Dec. 23, 1916, pp. 1929-1930.

have remained well and the cultures sterile for at least ten days. The dose for adults of this antigen should be 1 c.c., for children, from 0.25 c.c. upward, depending on the age, daily until the temperature becomes normal and remains so for one or two days, or until it is apparent that it has no effect.

THE TREATMENT

The antigen used in the treatment of the 200 cases under consideration consisted of a suspension of approximately 20 billion partially autolyzed pneumococci per cubic centimeter of physiologic sodium chlorid solution. The dose for adults was 1 c.c. daily until the temperature became normal. In children the dose ranged from 0.25 c.c. upward, depending on the age.

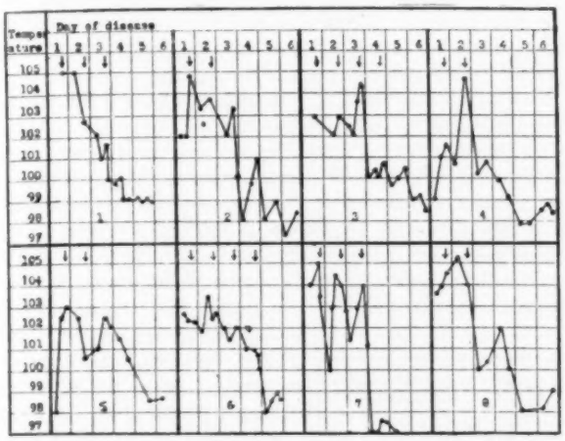


Chart 4.—Temperature curves in eight cases when injections of antigen were begun on the first day of the disease.

The diagnosis was made from the clinical history, character of sputum, physical findings, leukocyte count, etc. Cultures from the sputum were made in many instances, and in a number the type of pneumococcus was determined.

TABLE 1.—RESULTS OF THE TREATMENT OF LOBAR PNEUMONIA WITH PARTIALLY AUTOLYZED PNEUMOCOCCI

Time of First Injection	Number of Cases	Apparent Effect of Antigen			Average Age of Patient
		Strikingly Good	Good	Indifferent	
1 In patients who recovered:					
First day	23	18	3	2	32
Second day	66	25	34	7	31
Third day or later	83	16	28	39	28
Not recorded	14	4	8	2	41
Total	186	63	73	50	33
2. In patients who died:					
Second day	3	1	1	1	56
Third day or later	11	0	0	11	44
Total	14	1	1	12	51

In Table 1 are given the results in the 186 patients that recovered, and the 14 that died. The results in the 23 patients that received the first injection of antigen on the day of onset were strikingly good in 18, good in 3, and indifferent in 2. The results in the 66 patients receiving the first injection on the second day of onset were strikingly good in 25, good in 34, and indifferent in 7. The results in the 83 patients receiving the first injection on the third day of onset or later were strikingly good in 16, good in 28, and indifferent in 39. The results in the 14 patients in which cases the exact time of the first injection was not recorded were strikingly good in 4, good in 8 and indifferent in 2. Thus in the 186 cases, irrespective of the time of injection, the apparent results were strikingly good in 63, good in 73, and indifferent in 50. Of the 3 fatal cases in which the patients received the first injection on the second day, the apparent results were strikingly good in 1, good in 1, and indifferent in 1, while in the 11 patients who died and who received the first injection on the third day or later, the apparent results were indifferent in all.

The average mortality rate in the 95 patients receiving the injection within forty-eight hours after the onset was 3 per cent., while in the 105 receiving the first injection on the third day or later after the onset, it was 11 per cent. The total average mortality rate in all cases treated was 7 per cent.

One fatal case showed hemolytic streptococci in the blood and pleural exudate. One was proved to be due to *Bacillus mucosus* and one to *Pneumococcus mucosus*.

This apparently greater benefit following early injection is not due to difference in age, for the average age of the patients in the three groups is 32, 31 and 28 years, respectively. The average age of all the patients who recovered is 33 years, while of those who died, it is 51 years.

In Table 2 is given the time of crisis or lysis in 109 cases in which this could be determined. In the 24 cases in which the first injection was made on the day of onset the average duration of fever was three and one-half days, and in the 32 cases in which the first injection was given on the second day, the average duration of fever was five days. In the 53 cases in which the first injection was made on the third day or later the average duration of fever was seven days; the total average in the 109 cases was five and two-tenths days.

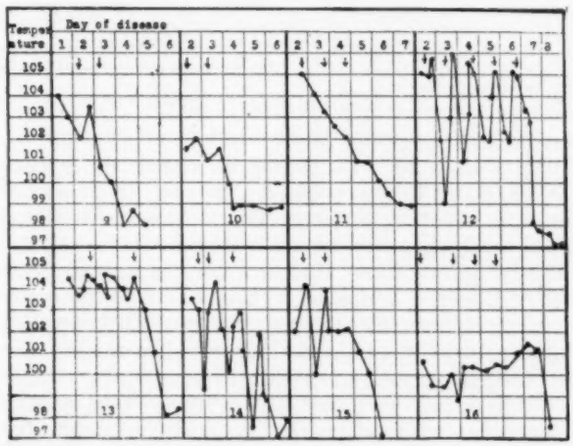


Chart 5.—Temperature curves in eight cases when injections of antigen were begun on the second day of the disease.

In Charts 4, 5 and 6 are shown representative temperature curves of twenty-two patients in whose cases the treatment was begun, respectively, on the first, second and third day or later, of the disease. The arrows indicate the time of injection of antigen. The age in these patients ranged from 4½ years to 58 years, the average age being 23 years. The distribu-

tion by lobes was the usual one. In Case 4 the entire left lung of the patient was consolidated. The need for giving the antigen early in the disease in order to obtain evident beneficial effects is well shown in these charts. In Case 16, in which little or no evident effect followed early injection, the patient was a bad alcoholic and had delirium tremens. In many of the patients the onset was violent and the toxemia great. The pulse and respiration rates showed a corresponding drop with the temperature, and hence the curves are omitted.

TABLE 2.—DURATION OF LOBAR PNEUMONIA IN PATIENTS TREATED WITH PARTIALLY AUTOLYZED PNEUMOCOCCI

Time of First Injection	Number of Cases	Day of Crisis								Average Duration in Days
		2	3	4	5	6	7	8	9 or Later	
First day	24	5	9	4	5	1	....	....	.....	3.5
Second day	32	....	7	7	8	2	4	1	3	5
Third day or later	53	....	....	4	9	7	15	5	13	7
Total	109	5	16	15	22	10	19	6	16	5.2

In only a relatively few cases was there decided local reaction at the point of injection; in no instances was the injection followed by chill, and no harmful effects have been reported. In some instances there was a short temporary rise in the temperature, followed, especially in the early cases, by a marked drop within twelve hours (Case 9, Chart 5). In some instances, following early injection of antigen, the fall in temperature was abrupt (Cases 1, 2 and 7, Chart 4, and Cases 10, 13 and 15, Chart 5). In others it was more gradual (Cases 5, 6 and 8, Chart 4, and Cases 11, 12, 14 and 15, Chart 5). The drop in the temperature was often more marked following the second early injection after a twenty-four-hour interval than after the first injection (Case 4, Chart 4, and Case 9, Chart 5). When injections were given late (Chart 6) the effect was less noticeable, although in some instances the temperature began to decline soon after the injections were begun.

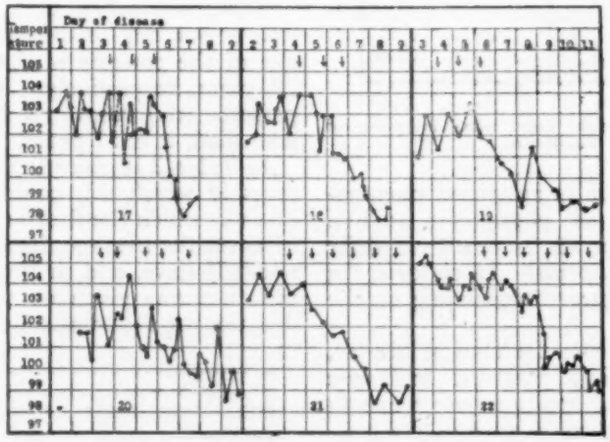


Chart 6.—Temperature curves in six cases when injections of antigen were begun on the third day of the disease or later.

The crisis following early injection of the antigen did not differ materially from that which occurs during the natural course of the disease. There was usually an accompanying perspiration, a drop in pulse and respiration rates and in the leukocyte count, and often a most striking disappearance of the toxemia. Resolution of the lung usually occurred quite promptly after the temperature became normal. Extension to another lobe occurred twice in cases in which the antigen was given within forty-eight hours of onset. Empyema developed in only four cases. In three cases of rapidly recurring pneumonia, early injections seemed to cut short the attack and, when injections were continued for a time, to prevent recurrence. Apparently good results followed its use in a number of postoperative pneumonias.

The occurrence of early crisis or lysis has been observed in pneumonias due to all of the types of pneumococci, and in at least two cases due to *Pneumococcus mucosus*.

The opinions of some fifty physicians who have cooperated with me are of interest. All but two who used the antigen early in the disease have noted apparently beneficial effects. Those who used the antigen late in the disease have noted little or no evident action. Those who have treated the largest number of cases with the antigen seem most convinced of its efficacy. Dr. F. Arnold Clarkson of Toronto has treated thirteen cases, the patients ranging in age from 19 to 67 years, without a death during a period when the mortality rate in the remaining cases of pneumonia in the hospital was 50 per cent., and says: "Most of the patients said they felt better for some time after the injection. All recovered, although some of them were very severe on admission to the hospital."

Dr. Ola Putnam of Marcelline, Mo., has reported sixteen cases of pneumonia treated with the antigen, the patients ranging in age from 6 to 63 years, without a death. He says: "When the antigen was used in the first forty-eight hours, the effects were so marked that it does not seem possible to attribute them to coincidence." The results in his hands following the early injection of antigen were so similar to those I have observed for some years that I quote reports of two of his cases:

J. J. D., aged 39, farmer, weight 200 pounds, married; previous illness consisted of two attacks of renal colic, a few months apart, two years before present illness. Initial chill about 2 a. m., February 14. At 11 a. m., temperature was 103.6, pulse 130, respiration 36, some cyanosis and complaint of pain in left side near nipple. Was expectorating blood-stained sputum; crepitant râles plainly heard over lower lobe of left lung. One c.c. antigen was given hypodermically. The following day about noon temperature was 100, pulse 110, respiration 26, expectoration about the same in quantity and character. One c.c. of antigen was again given and patient had profuse sweat about 9 a. m. The temperature next morning was normal, pulse 76, respiration 24. There was no further rise of temperature, and recovery was uninterrupted.

The case of R. U., 42 years. One c.c. antigen was given three hours after the initial chill. His temperature was 102.4, pulse 108, respiration 34. There was pleurisy over the lower right lobe, where many crepitant râles could be heard. That night there was some sweating, and twenty-four hours after the first dose of antigen the temperature was normal.

Dr. F. W. Nickel, Eureka, Ill., treated nine cases, the patients ranging in age from 2 to 58 years. All but three received the first injection on the first day of the disease, with recovery in all. He says: "These cases in which antigen was used, compared to eleven cases in which it was not used, were milder, average temperature and pulse rate were lower, they were more comfortable, the duration was shorter, they took nourishment better, and in every way appeared to get along better than the patients treated without antigen

during the same period of time—three months (January, February and March, 1914)."

Dr. J. P. McKelvey of Pittsburgh reports three cases, in all of which the antigen was administered late. He writes: "Our results in three cases were rather indifferent, as we were unable to note any definite effect on pulse, temperature, crisis or general state of the patient."

The exact mode of action of the antigen, whether due to nonspecific effects, to desensitization or to the mobilization of antibodies, has not been definitely determined. Considering the experimental and clinical evidence, however, the conclusion seems justified that this antigen, if given early, is followed in lobar pneumonia by the rapid appearance in the blood of demonstrable antibodies and seems to have a definite beneficial action on the disease. Its harmlessness is established. However, owing to the great variations in the course of the disease, depending, among other factors, on the virulence or type of the infecting pneumococcus, it is most difficult to draw conclusions as to the therapeutic value of any agent in pneumonia.

The results presented call for further study and trial. It is hoped that this will be carried out in military hospitals where opportunity to test its efficacy on a large scale under properly controlled conditions is at hand. The serum treatment for Type I infections should, of course, take precedence; but if this serum is not available, the antigen, since polyvalent, should be injected in all cases of pneumonia as soon as the diagnosis can be made. The determination of types of pneumococci, while important, should not prevent its early administration. A large quantity of antigen has been prepared, its effects on animals and on patients tested, and it will be sent on request to physicians in private practice or military hospitals who wish to study its action and who have not the facilities or the necessary time to prepare the antigen.

THE CIVIL ADMINISTRATIVE CODE OF ILLINOIS, AND MEDICAL LICENSURE *

FRANCIS W. SHEPARDSON
Director, Illinois Department of Registration and Education
SPRINGFIELD, ILL.

About ten years ago, the attorney-general of Illinois, William H. Stead, who is now director of trade and commerce at Springfield, in a moment of discontent with existing conditions, gave utterance to an opinion that an effective government in the state could never be obtained until the overlappings of authority resulting from the distribution of the powers of administration among many boards and commissions were ended. This observation was, perhaps, the first definite expression which led to the adoption of what is now known as the civil administrative code.

It was not until the forty-eighth general assembly, however, that an efficiency and economy commission was appointed. It consisted of four senators and four representatives who were authorized to make an investigation of all departments of the state government, including all boards, bureaus and commissions which had been created by the general assembly, with a view of providing a more perfect system of accounting and of combining and centralizing duties. It was hoped that this study would lead to the rejection of much useless machinery and to reorganization of the state government, with a view to greater efficiency and economy in administration.

The committee was comprised of some of the ablest members of the two houses. After organizing and outlining its work, in August, 1913, the members of the committee employed as director Dr. John A. Fairlie of the political science department of the University of Illinois. Under his leadership, they took the advice of a large number of officials and citizens, after many hearings at which testimony was presented from almost every possible point of view. As a result of the committee's investigations, there was published a report of 1,050 pages which has been called one of the most remarkable documents in the history of state government in this country.

ADOPTION OF THE CODE

It was in the year 1917 that the new plan took final shape. Although Governors Deneen and Dunne both referred to the proposition in their messages, it was not until the gubernatorial campaign of 1916 that it became a theme of general discussion throughout the commonwealth. In his inaugural address, Governor Lowden took a strong position in favor of the reform. Early in the year 1917, what is known as the civil administrative code was presented to the legislature and became law.

Its salient feature is the centralization of the several government agencies, with the exception of the civil service commission and certain temporary boards, into the nine departments of finance, agriculture, labor, mines and minerals, public works and buildings, public welfare, public health, trade and commerce, and of registration and education.

For each of these departments an executive officer, or director, is provided, with such subordinate officials as are deemed necessary, the number varying in the different departments.

THE CODE ON TRIAL

Seven months of experience have apparently amply justified the hopes of those who had at heart the administrative reform. While, according to the long established custom of state governments, a new administration always has to meet deficiencies from a previous one and usually has the fate of being forced to raise a tax rate which was reduced by its predecessor for campaign purposes, the machinery of the code has worked far more smoothly than even its most sanguine supporters had hoped. Those associated in the administration confidently believe that, if given a chance for a fair trial, within a year the code will prove its value by substantial financial savings as well as by increased efficiency. The work of the department of finance particularly is expected to show gratifying results. The strictest scrutiny is being given by its officers to all outlays, and many kinds of waste heretofore ignored, are now being checked.

The centralization of government under the code is not complete because, outside its jurisdiction, there are certain so-called constitutional offices, such as those of the secretary of state, the auditor of public accounts, the state treasurer and the superintendent of public instruction. This condition must remain until, perhaps, as the outcome of a constitutional convention, their duties may be included in similar proper depart-

* Read before the Annual Congress on Medical Education and Licensure, Chicago, Feb. 4, 1918.

ments. Happily there has been perfect harmony between the code officers and the constitutional ones, with the entire machinery at Springfield, to all appearances, working smoothly in the direction of notable administrative achievement.

WORK OF THE DEPARTMENT

In the reorganization scheme, medical licensure, formerly a part of the duties of the state board of health, was placed in the department of registration and education. Just a word about this department may be of interest. While the double name seems to imply divided activity, a closer survey of the powers and duties of the department shows that the thought of education is a dominant one. The word "registration" relates to the administrative work associated with all those professions and trades of whose members the state requires a license. The department has jurisdiction over a dozen different lines of endeavor, including those of the architects, barbers, chiropodists, dentists, embalmers, horseshoers, midwives, nurses, pharmacists, physicians, plumbers, structural engineers and veterinarians. It has a staff of twenty-seven persons whose work is being so organized as to distribute responsibility most effectively and secure accuracy, promptness, and efficiency in control.

The oversight of this part of the activities of the department is placed in the hands of a superintendent of registration. He is charged with arranging for the necessary examinations as provided for in the statutes, with furnishing of adequate assistance to the examiners, with the notification of the successful candidates, with the keeping of the records and files of certification, and with the large amount of correspondence relating to licensure in the several lines. Inasmuch as all the laws which regulate licensure provide for the evaluation of credentials both of preliminary education and professional training, the division of registration is charged with the investigation of the qualifications of applicants for examination and so, naturally, with the establishment of standards and the task of approving both the schools themselves and their courses of instruction. If the authority of the laws should be invoked to its full degree, it would be seen that the department's power over schools of all kinds is very great.

SUPERVISION OF EDUCATIONAL INSTITUTIONS

The word "education" in the department's title, therefore, does not imply an entire change of thought. It may, however, be taken to refer to certain types of higher education which are carried on under state auspices, and which are professional, investigational or scientific in their nature. The five normal schools which heretofore have been controlled by separate boards of trustees, are now placed under the jurisdiction of the department, having a single board with the director of registration and education as chairman. Grouped under the department also are the four scientific surveys, located at Urbana in connection with the state university, namely, the state geologic survey, the state water survey, the state natural history survey and the state entomologic survey. For the study of the needs of the four surveys and the development of their work, a special advisory board of scientists, called "the board of natural resources and conservation" and representing the different fields of research touched by the surveys, has been provided, the director of the department being its chairman. The department has jurisdiction also over the state museum, located at Springfield. For advice regarding the management of the museum, there is a board composed of specialists representing the five different lines of activity with which the museum concerns itself, namely, botany, ethnology, zoology, manufacture, and museum administration.

The members of these advisory boards were chosen with no consideration in mind whatever except to secure individuals of the highest character, entirely regardless of political affiliation, whose names would carry weight wherever mentioned. The board of natural resources and conservation, for example, is composed of Profs. Thomas C. Chamberlin and John M. Coulter of the University of Chicago, both men of national reputation in their respective fields of geology and botany; Profs. William Trelease and William A. Noyes of the University of Illinois, equally conspicuous in botany and chemistry respectively, and Mr. John W. Alvord of Chicago, an engineer of wide reputation. On the board of museum advisors are Edward W. Payne, one of the best known and most highly honored citizens of Springfield; Messrs. Owen and Millspaugh of the Field Columbian Museum; Prof. Henry B. Ward of the University of Illinois, and Mr. N. H. Carpenter of the Art Institute of Chicago. The normal school board, in like manner, is made up of selected men of exceptional fitness for their task. The department, in its administration, is greatly strengthened by its ability to command the assistance and advice of men of such preeminence. The magnitude of the educational work of the department, if expressed in terms of annual appropriations, is such as to make it fairly comparable with similar special departments in a great American university.

SAFEGUARDS FOR MEDICAL LICENSURE

But too much time may have been given to this preliminary statement, as the special interest of physicians lies in the field of medicine and in an understanding of the relationship which the department bears to the machinery of medical licensure. As before indicated, the dominating idea of the civil administrative code is combination and coordination, with centralization of power under responsible individuals. If such a plan provided for a political organization and the choosing of officers purely for partisan reasons, with special fitness for a given task made entirely subsidiary, there might reasonably be fear for the results. There is ground for thinking, however, that the scope of the activities of each of the nine departments is such as to command the services of individuals of the highest type with earnest purpose in accomplishment.

As a sort of safeguard against personal inefficiency, arbitrariness or venality on the part of the executive head, the code provides that whenever the laws regulating a given profession or trade so require, the department shall be advised and aided by a committee composed of members of that profession or trade designated by the director from time to time. The advantage of the limitation of the words "from time to time" has already been shown by several cases in which trial revealed the fact that chosen individuals were not satisfactory. The objection made to the plan is that there may be lack of continuity in policy when there is uncertainty of tenure. This is obviated by the possibility of reappointment of those whose worth has been demonstrated. The danger in the personal appointment feature, of course, is the danger attending the

entire code plan. An individual honored with appointment as director of a department either will or will not rise to his responsibilities. Still another safeguard declares that, in selecting the members of such committee, the head of the department shall give due consideration to the recommendations of members of the respective professions, trades and occupations and of the organizations therein. This committee has charge of the examinations for licensure and so guards the approach to the profession. In accordance with the code, the committee for medical practitioners is composed of five members. Exceptional care was taken in the selection of the initial committee under the new plan. The department officials cherished the idea of having a certain degree of continuity between the proceedings of the new department and those of the old state board of health. They wished to have the different points of view of medical organizations represented. Above all, they had an ambition to secure a group of men whose names would command respect and who in themselves would be an assurance to the friends of medicine that, under no circumstances, could there be retrogression under the changed conditions of the code. After a sifting of a large number of names presented for consideration, those chosen were Dr. John A. Robison of Chicago, former president of the Illinois State Board of Health; Dr. W. L. Noble of Chicago, former president of the Illinois State Medical Society; Dr. Leon C. Taylor of Springfield, for many years a member of the legislative committee of the Illinois State Medical Society; Dr. Carl E. Black of Jacksonville, all of whom represent the regular school, and Dr. G. M. Cushing of Chicago, the secretary of the Illinois Homeopathic Association, who represents homeopathy.

DEPARTMENTAL POWERS UNDER MEDICAL PRACTICE ACT

There was an added degree of importance in the choice of the first committee because of the fact that a new medical practice act, marked by many advances, went into operation the same day the department began its work. The new practice act raises the minimum requirements of preliminary and professional instruction and empowers the department of registration and education to establish additional standards. It gives the department power to revoke licenses for any one of nine reasons. It practically bars from the state most of the limited medical practitioners and places notable restrictions on the others. It affords abundant opportunity for toning up the whole medical profession in Illinois, in case the department can have the support of the better element of citizenship for its aggressive acts. No stronger appeal could have been made to the ambition of any one than that which was made to the director of registration and education, July 1. Under the law, neither he, nor his assistant director, nor the superintendent of registration could be a member of any one of the professions or trades for which the state requires a license. They were obliged to approach the problems of administration under many limitations of ignorance. But this handicap was more than overcome by the earnestness of their purpose to carry out the spirit of the several laws so as to win the approbation of those particularly interested in them, and better yet, to find that self-approbation which, after all, is the supreme thing when sincerity rules the heart.

In 1910, a now famous survey of American medical schools began its description of conditions in Illinois with the sentence, "Illinois is the plague spot of medical education in the country." In the eight years which have elapsed since those words were written, astonishing changes have come, and it is the determination of the department of registration and education, so far as lies within its power, to go forward in the direction of greater improvements in the situation. I wish to present one or two observations and impressions regarding medical licensure which have come to me in these recent months of administration.

DISTRUST IN THE MEDICAL PROFESSION

Approaching the subject of medical licensure, as I did from the standpoint of a layman, I found several things that made a marked impression on me. Of course I have been familiar, as every one has, with the jealousies which attach to the medical profession, suggested by the familiar proverb, "When doctors disagree, who shall decide?" I was hardly prepared, however, to find that this feeling of distrust and suspicion of one another was reflected in regulations covering licensure to practice medicine. While the laws and regulations relating to other professions seem to imply that an individual is innocent until he is proved guilty, that there are honorable men who may be trusted, and that there are honorable institutions whose diplomas are entitled to respect, in the case of the medical practice acts and the regulations of examining boards of medicine, the dominant note seems to be one of distrust, extending to medical schools, colleges, preparatory schools, and to every person who seeks to pursue the honorable profession of medicine.

The universities and colleges of the country, and other organizations which study schools and school standards, have learned to recognize certain institutions as worthy of trust. Why should not the medical profession also adopt this policy? Let us take the oldest collegiate institution in our country as an example. Harvard University has certain specific requirements for admission to its freshman class; it has certain specific credits which are required for graduation with the bachelor's degree, these being the completion of a definite number of courses with perhaps some regulations regarding required work. On the completion of the work thus demanded, the institution grants its diploma. In like manner, it has requirements for admission to its medical school and requirements for the conferring of the degree of medicine. Why may not the honor of Harvard University be recognized and its bachelor's degree and its doctor of medicine degree be accredited at once at their full value by a medical examining board or committee without any regulations demanding the production of original credentials of preparatory work, either preacademic or preprofessional?

CLEARING AWAY SUSPICION

There is an organization known as the Association of American Universities. Admission to its membership is carefully guarded; but when that admission is once gained, each member of the association recognizes the credits of the other without question and without examination. There are other organizations of universities and colleges that have won the right of recognition because of the strictness of their conformity to regulations designed to elevate the tone of college life and the standards of collegiate instruction. Why should not medical examining bodies avail themselves

of the thorough investigation which these organizations have made and accept for their own guidance the decisions of the latter as to what institutions are entitled to confidence, without any requirement of personal examination of any school?

There may be a reason why the profession of the physician is specially sacred—a reason which does not apply to the dentist, the pharmacist, or the member of any other trade or profession, and which demands a distrust of every human being lest, perchance, some one unworthy be granted a license to practice. In carrying on the work of the department of registration and education, I hope I may be able to follow the same methods of recognition of accepted standards to which I have become accustomed in a quarter of a century of university life, without giving rise to any suspicion that under my leadership the department is lowering standards in the slightest. At a recent conference attended by representatives of the five recognized medical schools of Illinois, the members of the examining committee for medicine and the officials of the department, it was the unanimous sentiment that, in connection with the formulation of new standards for approved schools, the atmosphere of suspicion so long persistent in Illinois should be cleared away. This conference, at which an entire working day was spent in harmonious effort to determine just and equitable rules for the regulation of medical schools and for the protection of Illinois medical licensure, was in itself evidence of the spirit which animates the department of registration and education.

NEED OF ANNUAL LICENSE RENEWAL

Another observation I wish to make is one of surprise at finding no provision in the Illinois medical practice act for an annual renewal fee for medical licentiates. In other professions and occupations, a fee of this type is much approved. Once a year, at least, the registered pharmacist, the architect or the barber reports his whereabouts and pays his renewal fee. The physician receives his license and is turned loose. If he joins a local or regional or state medical society, his habitat and habits may be known. But if he becomes a quack or faker or a caterer to degenerates, no one follows him up, except as he is arrested by some defrauded patron or falls into the clutches of the law for abortion or for selling narcotics. An annual renewal fee would mean a closer supervision. It would afford opportunity for withholding a license, if charges of unworthiness were proved. Incidentally, although this is a minor consideration, the revenue thus obtained would enable the state to be more aggressive in its attitude toward those who persistently violate the law and continually disgrace the great profession of medicine. As I have watched the workings of the laws regulating other occupations and have noted the great advantages of the annual license renewal features, I have wondered much why the friends of medicine in Illinois did not long ago make this a feature of the medical practice acts.

Instinctive Reactions.—Under normal environmental conditions instinctive reactions are quite sufficient and effective, but given an unusual demand for action under unusual stimuli, the individual fails to meet the situation and is more or less helpless. This is because intelligent action has to be substituted for instinctive reaction.—F. P. Norbury, *Institution Quarterly.*

THE MILITARY, INDUSTRIAL AND PUBLIC HEALTH FEATURES OF NARCOTIC ADDICTION

CHARLES F. STOKES, A.M., M.D., D.Sc., LL.D.
NEW YORK

It behooves us at this time carefully to consider, from every angle, all possible sources of man-power in order that we may claim for service many who believe themselves incapacitated for work, and force to purposeful effort others, who have sought exemption by reason of acquired or assumed physical deficiencies.

Distributed over the country are hordes of drug users in the age of conscription who, if drafted, must either claim exemption by reason of addiction, or, if accepted, must later be discharged as undesirable, or unable to serve, unless steps are taken to conserve this loss.

In some sections of the country heroin claims 90 per cent. of the narcotic victims. Nearly all of these persons are in the period of adolescence. It is difficult to say just how many addicts there are in the United States. The number may be surmised, however, when we consider the figures of a federal official who recently reported at a public hearing in New York City that there are a million drug users in New York State alone. At the other end of the line, we have the estimate of M. I. Wilbert of the United States Public Health Service that there were 175,000 addicts in the United States four or five years ago It is understood that the latter figures were based largely on estimates of the importation and sale of opium through trade channels, and that the appalling spread of heroin addiction and smuggling did not figure in the count.

We have made a careful study of this type of individual and find, for example, that the heroin users represent the norm for their respective grades in society: the percentage of feebleminded among them is around 6; few have been convicted of felonies; many have been arrested for minor offenses; after appropriate treatment nearly all have promptly regained their physical balance and later mental stability. It is known that drugs that depress function bring about no permanent structural tissue change demonstrable by laboratory methods. If this is true, then we have before us a monster group, a large proportion of which is capable of complete mental and physical rehabilitation, provided effective measures are employed. Within reach we have man-power of enormous proportions either for enlistment in the military forces or enrolment in the war industries. It would be illogical to look for 100-per cent. efficiency at the outset from individuals in this group, should they be enrolled in the military services or in the war industries, for addiction runs counter to close and continued application to any task and tends to rob the individual of the love of work for work's sake, and he is denied the joy of service for reasons that will be set forth presently. He is rarely an adept in the manual trades.

Let us see if we cannot come to a better understanding of the narcotic addict, and his attitude toward society, so that we may learn to know him as he is, and not as he is generally supposed to be. For purposes of study and intelligent application of remedial measures, we must recognize distinct types among

addicts, such as the intemperate and impulsive adolescent heroin user, who is usually profoundly poisoned and at low nutritional ebb; the pipe smoker, calm and serene, showing little apparent nutritional change; the psychopath, who was a psychopath before he became an addict; the unfortunate accidental type, who has fallen into addiction through the pain of injury or disease, sometimes the physician's victim; the temperate and discreet morphinists, among whom we frequently see the pale, fat, flabby type, suggestive of athyroidism. In each case, temperament has a perceptible influence on the course of the addiction. In all cases, no matter what their origin, or what form of opium they may be using, we find among addicts certain features in common that to my mind explain society's attitude toward the addict, and the addict's behavior toward the community. Further, these characteristics have a direct bearing on military, industrial, economic, social, criminal and public health problems.

No matter whether or not the addiction is a crowd, or gang, contamination, at the beginning, as is commonly the case with pipe smokers and heroin users, sooner or later the condition develops individualistic features; the indulgence becomes secret and solitary, and what might well be called a "shut-in" personality impresses itself on the unfortunate's character. Each day there arises from within an imperative demand for the agent that will save him from discomfort and permit him to avoid the appearance of emotional stress; this he must secure at all hazards, clandestinely, of course, for the law says he must not have it. His day's work is constantly overshadowed by thoughts of the time for the administration of his drug. In this frame of mind the addict must lack, under most promising conditions, ability to think clearly and to give full attention to the problems from without. If he misses his usual medication, he develops abstinence symptoms which dominate his behavior until he gets relief. This familiar picture, if carefully studied, convinces one that the addict is quite unable to adjust himself to the demands and restrictions of military service, in which men must accept standardized equipment, housing, food and the like quite remote from the "facilities" on which the variant must depend in community life. Hence the necessity for the painstaking mental and physical examinations at recruiting stations.

Not only is the addict unable to measure up to the requirements of military service but he is usually unable to meet the full exactions of community life. He is often in conflict with law, is commonly a drag in the industrial world; yet he may accomplish a measure of security in fields in which emotional flights have a value. He rarely figures as a financial asset; he is often an economic burden and very commonly a public health menace.

If the foregoing is accepted, then it is plain that we have enormous values in man-power going to waste. Individuals in this unfortunate condition may desire to serve, but realize that they are unable properly to prepare themselves for service by their own efforts, and they have little or no knowledge of agencies to which they can apply for relief.

Here is a military problem, an industrial condition, and a public health menace worthy of immediate attention on the part of federal and state authorities. Unattached physicians could, in my opinion, render conspicuous patriotic service by entering this field, provided a plan for action is laid before them and they are qualified by training to grasp the technical features of effective measures.

What plan of organized effort will best meet this situation? In order to determine this it will be well to keep clearly before us some features of the pathology of addiction so that our methods shall not be haphazard, ineffective and incapable of a measure of uniformity. In the prolonged use of opium and its narcotic derivatives, it is generally conceded that we are dealing with chronic depression of nervous functions; and, further, this depression involves the ductless glands and other organs that have to do with metabolism. In consequence, there are often marked disturbances of nutrition, and possibly subsidiary intoxications. It has been shown that on sharp withdrawal of drugs that depress nervous functions, we bring about a back-sway, or counterfeit stimulation. In the sharp withdrawal of narcotics, we have ample evidence of intense crises in the vegetative nervous system, as shown by the hyperreactivity to emotional stimuli; at this time there is an inhibition to stimuli at psychic levels. In other words, the person in this condition is dominated by the horror-fear emotion, and he must and will get relief at any cost. The restrictions of law and the ideals of society find no response in this unfortunate. As the emotional and inhibitory features of the case subside, we find a mind keyed up in suggestibility which must be taken into account in every scheme of after-care, or what might better be called reeducation.

If we are able to avert this emotional outburst, we hasten convalescence, save the patient from much intense suffering, and make him amenable to reeducation in a military atmosphere in a shorter time. We shall always have to take into account nutritional damage in each case and effects of addiction on the nervous system other than those to which reference has already briefly been made.

While it has been amply demonstrated that addicts can be taken off their drug without much distress, and early convalescence thus initiated,[1] I shall make no further reference to methods of treatment in the hope that the problem may be approached on all sides without prejudice and with wholesome cooperation.

No scheme of procedure can be satisfactorily carried out until we have federal control of the distribution of narcotics, hospital facilities for the care of women addicts, licensing of physicians qualified to treat addiction, supervision over sanatoriums, and above all the abolition of heroin. In some sections, as noted, heroin addiction is a curse.

In my opinion a comprehensive plan for dealing with this problem should include a collecting station in or near each great center where addicts might be referred by the draft boards, go voluntarily, or be sent by court procedure. Any large building with small spaces preferably in an enclosure would answer for this purpose. Here addicts could be taken off their drug, and after this has been accomplished they would be ready to be moved on to the reclamation colony for the necessary reeducational after-care. Abandoned military camps or existing rural colonies would serve admirably the purposes of the reclamation plants. At the colony, kindly yet forceful discipline should prevail, such as one finds in our military camps. At this

1. Surgeon-General's Report U. S. P. H. S., 1917.

point addicts could be classified and studied, and when ready for transfer would pass on to the zone of disposition, prepared for assignment, each case on its merits.

Many might be enlisted for military service, more, no doubt, would be better fitted for industrial pursuits, while still others would be found unfitted for any war obligation. Some probably would require hospital treatment, or should be continued in addiction for humane reasons. Federal recruiting officers and existing industrial employment agencies would doubtless provide for the needs of the zone of disposition.

While I was in charge of New York City's colony for drug addicts and alcoholics, it was clearly demonstrated that drug addicts could be controlled by enlightened methods of discipline and administration, on an open farm without guards, and with the employment of few punitive measures. They took kindly to purposeful work when adequate recreational outlets were provided. Naturally those who had not been previously inured to arduous physical tasks could hardly be expected to do a man's share of heavy farm work at the outset; still, afterward many took up this means of gaining a livelihood and found employment on neighboring farms.

The longer they remained under these colony conditions, the closer they approached the normal in every way. I have had men with criminal records serving in my household, and have had no occasion to regret the experiment. The defections commonly charged to addicts in the majority of cases are largely due to the demands of the dominating impulsiveness of beginning or actual drug abstinence.

When these men were given employment away from former pals and old surroundings, they almost invariably did well. If, however, they returned to old associates, to their former domiciles and were confronted by sellers, or addicted women, they commonly relapsed. This was conspicuously the case with the adolescent heroinists. Stanley Hall and others have emphasized the fact that the attitude of the adolescent crowd sets at naught the restraining influences of religion, deterrent law, and home training. As heroin is the contaminating agent in the great majority of cases among adolescents, it should be abolished, particularly as this can be done without materially harming or discomforting the sick. Unless this is accomplished and our young addicts seek new fields of industry, we shall fail to break up this vicious circle; in fact, we shall find ourselves in the absurd endeavor of trying to "cure" adolescence. The necessity for the restrictive and legislative measures suggested above is evident.

It is time that an educational drive be inaugurated in which this problem may be stripped of mystery and sensationalism, and the facts of the situation laid bare. The addict should learn that he is chronically poisoned, and to this extent ill; he must get over the notion that there is any method of treatment that will return him to the normal with the same magic that his drug of addiction relieves his distress. It is this attitude that often defeats our efforts at treatment and leads to half hearted cooperation.

50 East Forty-Second Street.

Knowledge.—Every mind was made for growth, for knowledge, and in its nature is sinned against, when it is doomed to ignorance.—Channing.

Clinical Notes, Suggestions, and New Instruments

A MOUTH GAG

Frank Allport, M.D., Chicago

With the exception of the device for opening the arms, this gag is the same as the Jennings mouth gag, except that it is perhaps a bit stronger. I have done away with the somewhat complicated machinery for opening and shutting the mouth gag, as devised by Jennings, and have employed a method similar to the one I suggested many years ago for my mastoid retractor. This will be seen in the accompanying illustration. The whole instrument is made strong in every way and, when placed between the teeth, will open the mouth by gradual force—in a way that cannot be accomplished by any of the other gags. The arms are opened by simply turning the screw head, and are shut in the same way. It is so simple as really to need no description, and I think that its simplicity and lack of complicated machinery will recommend it.

Mouth gag.

Considerable time can be saved by using this gag, because with others we have to wait until the patient is absolutely relaxed before beginning to remove the tonsils, whereas with this gag the force is so strong that a mouth can be opened before complete relaxation occurs. It is made in two sizes.

USE OF GLYCERIN IN THE EXAMINATION OF FECES FOR TYPHOID BACILLI

Edith A. Beckler, S.B., Boston
Bacteriologist, Massachusetts State Department of Health

The use of 30 per cent. glycerin in physiologic sodium chlorid solution as a medium for feces for delayed examination has been recommended by Teague and Clurman.[1] For the past year the diagnostic laboratory of the Massachusetts State Department of Health has employed an outfit containing this solution for specimens sent through the mail. The assumption has been that better results are obtained by streaking fresh material, if it is possible to obtain it, at once, or after emulsifying it in broth, on Endo plates or some other selective medium after incubating the emulsion for an hour or two at 37 C.

We have found by experience, however, that specimens of feces sometimes fail to show typhoid bacilli if plated while fresh or after broth enrichment, but after from twelve to twenty-four hours in glycerin show typhoid bacilli in considerable numbers. A specimen from a typhoid carrier received recently gave negative results on plates made directly from specimens of feces and after incubation in broth, but showed many typhoid bacilli after incubation in 30 per cent. glycerin for eighteen hours. Plates made from the glycerin suspension showed very few colon bacilli as compared with those from the fresh material or a broth suspension. The advantage of the glycerin would appear to be its marked inhibitory action on *B. coli* and its apparently slight effect on *B. typhosus*.

1. Teague, Oscar, and Clurman, A. W.: Jour. Infect. Dis., 1916, **18**, 653.

Military Medicine and Surgery

TRANSFUSION WITH TESTED BLOODS

INCLUDING THE GROUPING OF ONE THOUSAND BLOODS AND A METHOD FOR USE AT ADVANCED HOSPITALS *

HOWARD T. KARSNER, M.D. (CLEVELAND)
Captain, M. R. C., U. S. Army
FRANCE

In military hospitals the indications for direct transfusion of blood, namely, hemorrhage, shock and prolonged infection, arise with considerable frequency. I do not wish to enter into a controversy over the value of transfusion in these various conditions, but will point out the value of the laboratory as an aid to conducting the operation without accident. It is well known that the use of indiscriminately selected donors may nullify the value of transfusion, or even be disastrous to the recipient, and it seems to be the case that accidents of this sort are more frequent in the base hospitals than in those nearer the front. The reason for this difference is not altogether apparent, but the patients at the base have been wounded for a longer period and have been drained by infection to a greater degree than those nearer the front. The fundamentals of this problem must be the subject of further investigation. In this base hospital of about 1,200 beds, transfusion has been practiced forty times with properly tested bloods. In two instances, reactions were noted in the recipients, one being due to a confusion of names of donors, whereby the donor's corpuscles were agglutinated by the recipient's serum, the other being a case in which the recipient's cells were agglutinated by the donor's serum. In both cases the reaction appeared after the introduction of about 50 c.c. of the donor's blood, and the operation was immediately stopped. In neither case was the reaction fatal.

TABLE 1.—BLOOD GROUPS *

	Serums of Groups			
	1	2	3	4
Cells of Groups:				
1	—	+	+	+
2	—	—	+	+
3	—	+	—	+
4	—	—	—	—

* The plus sign indicates agglutination and hemolysis. It will be seen that this grouping of Lee is the opposite of that of Ottenberg and others.

METHODS

Two methods of testing the blood have been used in this laboratory. The method of Kolmer as outlined in Webster's "Diagnostic Methods" was employed in fourteen cases. From a purely laboratory standpoint, this method was satisfactory and accurate, but was found to occupy a longer time for attaining results than the surgeons considered desirable. It cannot be completed in less than two and one-half hours, which means a great delay when the wounded and infected patient is suffering from a severe secondary hemorrhage. Hence the method of Lee[1] was welcomed and used with great success. This is based on the fact, long known, that the interaction of serum or plasma and red corpuscles places every individual in one of four groups, as in Table 1.

Any of the standard methods for demonstration of agglutination may be applied, but that recommended by Lee appears to be the simplest and quickest. For this test it is necessary to have the serums of individuals of Groups 2 and 3; a sufficient amount of these for establishing the method was kindly provided me by Major Lee. A platinum loopful of each of these serums is placed on a clean microscope slide, and to each is added either an equal amount of whole blood, or blood placed in 1 per cent. sodium citrate solution or in physiologic sodium chlorid solution. In reading the agglutination, care must be taken not to confuse rouleaux formation for agglutination. In this laboratory the routine of the test is carried out in the following manner:

From 0.5 to 1.0 c.c. of 0.85 per cent. sodium chlorid solution is placed in a small test tube, into which are dropped 2 drops of the blood to be tested. If a clot forms, a satisfactory emulsion of cells can be made by shaking the tube. A platinum loopful of each of the standard serums is placed on a clean slide, and into each drop a loopful of the blood emulsion is rubbed. The reading of the agglutination is made under the microscope (16. mm. objective) and is usually complete in from five to fifteen minutes. As will be seen from the table, if both drops show agglutination, the blood is in Group 1; if neither shows agglutination, it is in Group 4; and if one shows agglutination and the other not, the blood belongs to the group in which there is no agglutination. A somewhat smoother emulsion may be made by inverting the slide so as to convert the drops into hanging drops. The inverted slide can be placed on the microscope stage on another slide whose ends are built up with small pieces of fairly thick slide pasted on with balsam. We frequently use a Group 4 serum as a control. The reaction is so sharp that it is easily read; and if a microscope is not available, a lens of 10 diameters magnification will be quite ample in the hands of a trained worker; and the tests should be carried out by a properly trained man. Reports can usually be handed to the surgeon in fifteen minutes.

A large list of available donors may be grouped in this fashion, so that when a patient needs a transfusion, his blood may be quickly grouped, and a donor selected from the list posted either in the laboratory or the operating theater. Donors should be free from infectious disease, particularly syphilis.

It can readily be seen that if a donor is used in the same group as the recipient, the cells of neither will be agglutinated or hemolyzed. Lee maintains, however, that if the donor's serum, according to in vitro experiments, agglutinates the recipient's cells, such donor may be safely used because the donor's serum is thus diluted from five to twelve times, and in addition, the recipient's cells are "amply protected by his own serum," presumably because of the presence of some antiagglutinative substance. Conversely, if the donor's cells are agglutinated by the recipient's plasma, reactions appear which may be so severe as to be fatal, and at best such a transfusion would be of no value because the agglutinated cells are finally hemolyzed.

If these statements are true, Group 4 donors may be used for any transfusion, as their cells are not agglutinated by the serum of any group. In the same manner, Group 1 may receive blood from any donor, as the serum of Group 1 does not agglutinate any cells. While feeling sure that Group 4 may be used as the "universal donor" with almost complete safety,

* Aided by a grant from the American Red Cross.

1. Lee, R. I.: A Simple and Rapid Method for the Selection of Donors, Brit. Med. Jour., 1917, **2**, 684.

I prefer to use donors in the same group as the recipient when possible, because of my observation of one unfavorable case in which a reaction appeared, the test having shown that the donor's serum agglutinated the recipient's cells as demonstrated by the method of Kolmer. It also appears to me that the protection of the recipient's cells from agglutination by the donor's plasma is probably the result of an anti-agglutinative body rather than because of dilution, for it can be shown that serum retains its agglutinative properties when diluted as much as thirty-two times. Naturally such an antiagglutinative body would operate better against a diluted plasma than against an undiluted plasma. The problem is further complicated by the variable agglutinability of cells from different individuals. The patient worn down by infection may possibly be less resistant to such agglutinative serums than the freshly wounded man. If standard serums are not obtainable, Lee recommends the following method as the minimum procedure for testing.[2]

A small amount of blood is collected from a patient (1 c.c. from the ear or finger is sufficient), and allowed to clot. The serum is then obtained. One drop of this serum is placed on a slide and mixed with a drop of a suspension of blood of the donor taken into 1.5 per cent. citrate solution. (A few drops of blood are taken into approximately ten times the amount of 1.5 citrate solution and shaken. It is very important that the blood be dropped directly into the citrate, and should not be partially coagulated.) The test will appear in a few moments, and is best examined under the microscope, where, in the event of a positive test, marked agglutination will be evident. The test will also be evident macroscopically. In the event of a negative test it is a wise precaution to raise the cover glass, and after making sure that the serum and cells are well mixed, to examine the preparation again. The only possible source of confusion is the appearance of rouleaux of the red corpuscles, indicating a too thick emulsion. If the test is negative, transfusion may be regarded as entirely safe.

PERCENTAGE DISTRIBUTION OF GROUPS

The figures with which I am familiar are based on a relatively small number of observations. Statistics of this sort naturally increase in accuracy with the number of observations. As a large number of soldiers could be examined, the bloods of 1,000 individuals were subjected to examination with the results given in Table 2.

TABLE 2.—CLASSIFICATION OF BLOOD IN ONE THOUSAND CASES

	Per Cent.
Group 1	3.1
Group 2	42.4
Group 3	8.3
Group 4	46.2
	100.0

Granting that Group 4 is the universal donor, the chances of a member of any group having a suitable donor in case the blood is not tested are as indicated in Table 3.

TABLE 3.—CHANCES OF HAVING A SUITABLE DONOR

Group 1	493 in 1,000
Group 2	886 in 1,000
Group 3	545 in 1,000
Group 4	462 in 1,000

If the group percentage in each group is multiplied by the favorable chances of that group expressed as fractions of 1,000 and the results added, the total gives the chance of any individual having a successful transfusion, if the bloods are untested. This figure is 649 in 1,000. I am indebted to Lieut. W. B. Rogers of the Lakeside Unit for perusal of his notes on a series of transfusions with untested bloods at a casualty clearing station in order to determine how closely the theoretical figure 64.9 per cent. approximates the chance in actual practice. Ruling out thirteen cases, the notes of which are not complete owing to the rush of work, and ten cases which were hopeless at the start; there are thirty-six cases, of which ten showed reactions varying from a slight chill to severe rigor, or 73 per cent. without reaction of any kind.

TESTING AT ADVANCED HOSPITALS

The first point behind the lines at which transfusion is practicable is at the casualty clearing stations, or evacuation hospitals. Frequently such a station may have no laboratory of its own, but may be served in conjunction with several others by a central laboratory. It is obviously impossible to test recipient's blood in need of immediate transfusion if the laboratory is several miles away. It is possible, however, to test prospective donors, send the results to the hospital, and use Group 4 as the universal donor. Delay in transportation of the blood to be tested is of little importance, and we have found that blood taken into salt solution and kept at room temperature will retain specific agglutinability for seventeen days, in spite of the appearances of distinct hemolysis in the tubes. If considered desirable, it would be possible to test donors at the central laboratory, and have recipients tested at the casualty clearing stations, thus preventing the use of only Group 4 donors.

For purposes of testing at the casualty clearing stations, it was at first thought that the stations could be provided with slides on which were dried drops of the necessary serum; but it was found that after drying for several days, the serum was not easily redissolved, and when redissolved, it had lost its agglutinating power. Supplying the stations with ampules of serum was not considered desirable because of the difficulty in keeping the serum free of infection. In order to overcome these difficulties, it was decided to provide the "resuscitation teams" with serum in tubes, drawn out of glass tubes, similar to those in which glycerinized vaccine virus is provided. If desired, the serum may be preserved with 0.5 per cent. phenol (carbolic acid), for we have determined that this does not alter the titer of the serum, and that it agglutinates powerfully for at least a month after being phenolated and remaining at room temperature. Accordingly, a team has been sent to a casualty clearing station with this equipment:

Six microscope slides.
Six tubes, 75 by 10 mm.
Fifty small tubes of Group 2 serum.
Fifty small tubes of Group 3 serum.
One copper wire loop (platinum and aluminum not being available at the moment).
One hand lens of 10 × magnification.

This can be packed in a tin such as carries 100 cigarets, and is thus easily transportable. The serum is blown from the tubes directly on the slide, and an equal amount of blood is suspended in physiologic sodium chlorid solution, rubbed in with the loop. The slide is inverted, stands at room temperature for ten minutes, and the result is read with the hand lens.

2. At the time of writing this paper I was not familiar with the method of Rous and Turner which is superior for places not equipped with the standard serums (Rous, P., and Turner, J. R.: A Rapid and Simple Method of Testing Donors for Transfusion, THE JOURNAL A. M. A., June 12, 1915, p. 1980).

The loop must be dried with a towel or blotter in going from one serum to the other, but does not necessarily need sterilization. As the serum is exhausted, a new stock can be forwarded; but because of the chance of deterioration when kept at room temperature, it is well not to send too great a stock.

This method has been found to be entirely satisfactory in the hands of Lieuts. B. F. Harrison and W. R. Barney; but any method for use at a casualty clearing station presupposes a firm conviction on the part of the operators that testing of the blood is of fundamental importance. It is highly desirable that the surgeon undertaking the procedure be familiar with general laboratory technic and that he has seen the test carried out by some experienced person.

THE BRITISH ZONE OF THE ADVANCE

MAJOR GEORGE DE TARNOWSKY, M.D.
(CHICAGO)
Major, M. R. C., U. S. Army
A. E. F., FRANCE

GENERAL CONSIDERATIONS

It may be stated as a truism that any comparison between the French and English methods of treatment or evacuation of the wounded in their respective zones of advance is impossible, because of radical differences in the topography of the land and in the general conception of trench warfare.

The English have maintained a comparatively short front, difficult to hold and correspondingly more difficult to advance in. They have pinned their faith in density of front, with continuous activity along the entire front, alternating with intense attacks in selected sectors. The enemy, constantly and diligently harassed, retaliates in kind; the pressure is constantly maintained, night and day. This unending "strafing" has naturally multiplied the problems of evacuation, increased the distance between the front lines and the regimental aid posts, and lengthened the elapsed time between the reception of a wound and its thorough surgical treatment. The evacuation hospitals or casualty clearing stations (C. C. S.'s) are under more or less constant bombardment, either by large caliber naval guns or aeroplane guns (Archies); they have frequently had to be moved about from place to place, and it has been impossible to keep the wounded in the zone of the line of communications until their wounds are healed.

The inevitable result has been that the British base hospitals have had to perform a good percentage of primary operations and a still larger percentage of secondary or completing operations.

Primary closure of wounds, after thorough excision of all devitalized tissues, which is now almost an axiom in the French army, is still in the experimental stage with the British (January, 1918). This apparently radical difference in the zone of advance should not be laid at the door of conservatism; rather is it due to the time element, the extremely precarious position of the casualty clearing stations, and the consequent necessity of rapid evacuation of the wounded men to the base.

An advance research hospital has lately been established in one of the casualty clearing stations for the purpose of testing out the possibilities of primary or primosecondary closure of wounds. The results are very encouraging and will, no doubt, lead to a gradual adoption of the French method. Every effort is made to get the wounded to the casualty clearing stations while the wound infection is still localized; stretcher bearers and ambulance drivers are straining every effort toward expediting evacuations, working under surroundings of almost indescribable difficulties.

TOPOGRAPHY OF THE LAND

The salient that I visited forms part of the plain of Flanders, the gentle slopes affording no protection from enemy visibility. The rainfall is always very heavy, and the constant presence of surface water makes trench digging impossible. The principal city is a mass of ruins, and the few scattered villages in the two sectors visited have entirely ceased to exist.

For miles in every direction, there is hardly a square yard that is not represented by a shell hole, full to the brim of muddy water. The mud, a mixture of clay and sand, is treacherous to the extreme; men have actually disappeared, as though swallowed up in quicksand. Roads are either under constant shell fire or have been entirely destroyed as one approaches the front lines. Consequently all movements of troops, as well as the evacuation of the wounded, take place along the "duck-board" paths laid on posts driven in the mud. Bodies of horses and men lie, unburied, in shell holes, polluting water and soil and filling the atmosphere with a stench that seems at times almost unbearable. Trenches being impossible to construct or maintain, on account of the mud and water, the men in the front lines are forced to crouch in shell holes from which the water is bailed or pumped out. The only relative protection against shell fragments is afforded by the "pill boxes" which the enemy had constructed when he held that part of the sector. These pill boxes are ferroconcrete mitrailleuse forts, approximately 20 feet square and 8 feet high in the interior chamber. The British use these for regimental aid posts or relay stations for stretcher bearers.

A duck-board path is usually 3 feet wide and from 1 to 3 feet above the mud and water. Attempts have been made to build them double or even triple width, in order to evacuate the wounded on two wheeled stretcher carts; but the experiment has, so far, not been very successful owing to greater exposure to shell fire. In order to avoid enfilading fire they are always built zigzag, direction being changed about every 20 yards. A special evacuation line, 4 miles long, was built; but, owing to the density of troop movements, this path has to be utilized by fighting units as well as by noncombatants, so that the congestion is often very great.

A few narrow gage railroads extend to within 2,000 yards of the front lines, but they are so frequently destroyed by shell fire that the Medical Corps has not seen fit to utilize them for purposes of front line evacuations.

From military, sanitary and surgical points of view, it is impossible to conceive of a more stupendous task than the one confronting our allies in this sector. It is unbelievable until one has actually visited it from front lines to zone of communications; it is equally impossible to describe its horrors after one has seen it. One cannot help feeling unbounded admiration for the bulldog tenacity, courage and spirit of self-sacrifice which alone have enabled the British army to "hang on" to this salient for almost four years and to

advance their lines in the face of such gigantic topographic and climatic difficulties.

THE REGIMENTAL AID POST

Situated about a thousand yards from the interconnected shell holes which form the front line, the regimental aid post occupied one of the pill boxes mentioned before. I am proud to be able to state that the first lieutenant, M. C., in this post was one of the many American medical officers in the temporary service of the British army. He had under his command a sergeant H. C., two orderlies and eight squads of stretcher bearers.

Owing to the meager dimensions of the shelter, which also had to house the entire personnel, no attempt could be made to treat any wounds surgically. Thomas splints, dressings and bandages were in stock, with sodium bicarbonate for "gassed" patients. No antitetanic serum was given them, but morphin could be administered in suitable cases. The aid station was essentially a protection against shell fragments and a point of departure for the stretcher bearers. The personnel slept in the most sheltered part of the pill box, and the cooking was done in a small lean-to added on to the side least exposed to shell fire. During a barrage fire that I witnessed, the rear of one of these kitchens was completely destroyed by a direct hit, while another shell fell immediately in front of the pill box entrance, fortunately without causing any casualties.

The chief antiseptic used was a 2 per cent. solution of picric acid, wet dressings being applied to all severe wounds. There was no dressing table, and no emergency operations such as tracheotomies or clamping of blood vessels could be performed. Tourniquets had to be used, but were released and readjusted at the aid station and relay posts, if written instructions to that effect were put on the diagnosis tag. Hot drinks were supplied to both wounded and combatants, and shock patients were heated by means of a Beatrice stove enclosed in a makeshift receptacle to which a piece of stove piping was soldered. An iron cradle is placed over the stretcher, blankets thrown over it and tucked around the patient, and the piping carries the hot air to the extemporized chamber, corresponding to the *cellule chauffante* of the French. The simplest hot air apparatus consisted of a Beatrice stove placed inside of a 4 gallon gasoline can with a hinge door on one side and the stove piping riveted or soldered on top. Experiments have proved that within from ten to fifteen minutes, 140 degrees of heat can be obtained. The same apparatus is also used for drying blankets, rubber boots, etc. Hot water bags are also used around severely wounded men during their evacuation, empty ones being brought back with the stretcher.

RELAY POSTS

Approximately 1,000 yards apart, the relay posts constitute shelters for three or more squads of stretcher bearers in charge of a sergeant H. C., with reserve supplies of stretchers, blankets, hot-water bags and dressings. Two or more relay posts are maintained between the regimental aid station and the advanced dressing station 5,000 yards behind the front lines.

Water is brought up in 4 gallon gasoline cans from the nearest filtered and chlorinated water supply station. Hot food reaches the relay posts and front lines in gasoline cans placed in gunny sacks and surrounded by a 3 inch layer of hay. The food remains hot for six hours. When surrounded by a 1 inch layer of absorbent cotton, the food in the cans will retain its heat for ten hours.

ADVANCED DRESSING STATION

Approximately 5,000 yards behind the firing line, the advanced dressing station represented a divisional field ambulance occupying a semipermanent post. The ruins of a château had been fairly adequately protected against shell fire by means of corrugated iron roofing and four layers of sand bags. A double sliding door gave good protection against gas attacks. Light was supplied by acetylene lamps and candles. A captain M. C. was in command and a sergeant H. C. and eight orderlies constituted the personnel. The dressing room, 8 by 12 by 22 feet, contained a dressing table, sterilizing outfit and an ample supply of ordinary surgical instruments, splints, dressings, etc., besides 600 blankets, 100 suits of pajamas and sixty hot-water bags. Emergency operations could be performed only during periods of relative calm. Antitetanic serum was occasionally given here, but not as a routine procedure. In gassed cases, whether caused by phosgen or combined chlorin and phosgen, the patients were treated by inhalations of steam with 1 ounce of tincture of benzoin compound to a pint of water. The slightly gassed patients walked around the improvised nozzle, taking turns at inhaling the steam. The severely gassed patients, "lying cases," had the same steam passed around from stretcher to stretcher.

From the advanced dressing station a narrow gage railway could bring the wounded to the corps main dressing station, if not subjected to barrage fire. Evacuation was by means of two specially fitted up trucks with a carrying capacity of sixteen stretcher and eight sitting patients. The trucks were drawn by a small gasoline engine, the round trip taking an hour. Motor ambulances, although subjected to shell fire, also reached the advanced dressing station, especially at night time.

Bomb proof shelters were in the course of construction, but the presence of surface water rendered the task an extremely difficult one. Shelters were as a rule built of corrugated iron sheeting covered over with three or four layers of sand bags. None were proof against a direct hit. Sleeping bunks for staff and personnel were invariably surrounded by a wall of sand bags 3 feet high, in order to obtain protection against shell fragments. In another sector of the same salient, a dugout 24 feet deep, 400 yards long, 6 feet wide and 7 feet high had been constructed. Water trickled down both entrance and exit stairways and from the ceiling and sides of the gallery, necessitating the constant use, night and day, of two hand pumps in order to prevent flooding. The stretcher bearers were obliged to live amid these insanitary surroundings, sleeping on water-soaked stretchers placed on the floor of the gallery. This experiment was not considered a success by the Medical Corps, but some shelter had to be provided for the men as there were no available pill boxes or ruins of houses to act as a nucleus of protection.

COLLECTING POST FOR THE SLIGHTLY WOUNDED AND SICK

Situated 1,000 yards behind the advanced dressing station and approximately 6,000 yards behind the firing line, the collecting post for the slightly wounded and sick consisted of several corrugated iron huts

reinforced by sand bags, in which the sick and slightly wounded could gather for evacuation by way of a narrow gage railway. Their wounds were rapidly cleansed, tincture of iodin or picric acid being the antiseptic used. The medical officer in charge divides the patients into those who will be well in a week and those who will require two weeks or a little longer, a certain elasticity being allowed in the latter cases. No diagnosis is made of the men reporting as sick; they are sent to the divisional rest station for observation. Twice daily, the narrow gage railway gathers the men in the collecting post and carries them to the divisional or corps resting stations. Should the railway become unavailable, the horse ambulances in reserve are utilized for this particular evacuation.

CORPS MAIN DRESSING STATION

Eight thousand yards behind the firing lines, and occupying the spacious cellars of a public building, in the principal city of the salient, the corps main dressing station represented the first semipermanent field ambulance where emergency operations could be performed amid proper surroundings. The evacuation of wounded from two sectors converged at this point.

The cellar was bomb proof, well lighted by electricity and acetylene lamps, possessed space for fifty stretchers, and had a round dressing room large enough for six operating tables and necessary equipment. The wounded, arriving by motor ambulance from the advance dressing station, are examined in the motor itself by a surgeon; the severely wounded needing immediate operation, such as those having intra-abdominal, intrathoracic or intracranial wounds, are not removed from the ambulance but continue their journey directly to the casualty clearing station, thus shortening the interval by at least two hours. Those requiring emergency operations (hemorrhages, threatened edema of the glottis, etc.) are immediately carried down to the operating room and treated; shock patients, if they have not yet received treatment, or have relapsed, are also given a "hot air" course and 30 grains of sodium bicarbonate by mouth, together with hot drinks, highly sweetened, before continuing with their journey. Fractures are examined and splints readjusted if necessary. To recapitulate: The severely wounded remain in the motor ambulances and go directly to the casualty clearing station; all other patients are carried to the corps main dressing station for treatment or to await evacuation by hospital train. At a stated hour every day, the hospital train takes these patients to various casualty clearing stations along the line. Antitetanic serum (from 500 to 1,000 units) is given to all patients in the corps main dressing station, and morphin, ¼ grain, in restless cases.

Even in periods of relative calm, no surgical excision of lacerated tissues is attempted; no foreign bodies or pieces of detached bone are removed unless they appear in the wound and are readily removable. There is no roentgen-ray equipment present, or contemplated, in the dressing station.

The vast, bomb proof, well ventilated and well lighted cellars formed an ideal place for advanced surgery, and I received the distinct impression that such a possibility was being considered. There were ample means in the surrounding ruins to house a much larger surgical staff and personnel in bomb proof rooms, and several evacuation routes, roads, narrow and normal gage railroads, afforded ample means for receiving and evacuating the wounded.

DIVISION AND CORPS REST STATIONS

The division and corps rest stations correspond to the French *hôpitaux des ecloppés* and to our own hospitals for the slightly wounded. The practice is to keep all sick and wounded who will presumably be well in a week at the division rest stations. If, in the opinion of the surgeon, a given case will require longer than a week, he is sent to the corps rest station, where he is further studied and accurately diagnosed. In order to keep up the morale of these patients, all sorts of amusements (concerts, movies, games, etc.), are provided.

Once daily, a special shuttle train carries the evacuation patients (not cured within the specified time) from the division rest station to the corps rest station, or from either of these stations to the casualty clearing station, if prolonged treatment is deemed necessary. The staff and personnel of these rest stations is obtained from the reserve divisions behind the two converging sectors. As a general practice, all patients requiring over two weeks' hospitalization are sent down to the casualty clearing station for treatment.

TRENCH FOOT PROPHYLAXIS STATIONS

During the rainy season, and in the absence of massed attacks or "shows," as the British call their advances, trench foot produces the greatest single percentage of casualties. The whole question has been most minutely studied; no time or expense has been stinted in order to produce results. The present system of prophylaxis and active treatment has given the most satisfaction, but the ideal has not yet been attained. Whenever possible, the men in the shell holes constituting the front line are relieved every forty-eight hours. In a certain unusually exposed sector, this has not been found economical, the commanding officer being able to prove that the casualties incident to the relief of troops through barrage fire was greater than those caused by trench foot. The men in this sector are consequently required to remain at their posts for five-day periods.

Repeated questioning of trench foot victims brought out the fact that prophylaxis in shell holes could not be observed in many cases. One soldier tersely expressed himself thus: "If I get my feet out of the mud and water, I slip in and drown; after twelve hours my feet are so swollen that I cannot remove my shoes; how can I have my feet rubbed or change my socks?" Several officers corroborated this statement. Each man in the front line is equipped with a square of tarpaulin or rubber sheeting, on which he sits or crouches. In order to warm his tea, he is supplied with a "Tommy's cooker," a small lamp containing solidified paraffin as fuel, over which he heats his cup or pan, fifty of these lamps being supplied to each battalion. Hot food reaches him at night time in the cans described above. Before going to the trenches, and immediately on returning from them, each soldier is obliged to take the prophylaxis against trench foot described below. The use of rubber boots has proved disappointing on account of the impossibility of drying the interior of the boots. The perspiration soon soaks the socks through and through, and the men complain bitterly of cold feet. Puttees are prohibited in the shell holes because they favor venous stasis; the men

wrap gunny sacks around their legs, with a piece of loosely applied string to keep them in place.

TRENCH FOOT REGULATIONS OF THE BRITISH ARMY

Prevention.—In order to minimize the occurrence of trench foot and frost bite during winter, instruction in the measures of prevention detailed below will be commenced before cold weather commences.

Commanding officers will be reminded that the loss of effective strength due to the prevalence of this trouble is an indication of faulty discipline and faulty interior economy, and they will, therefore, be held responsible that the instructions laid down are carried out under the strictest supervision by company officers.

Regular foot-rubbing drills will be carried out throughout the army during inclement weather, both in and out of the trenches. Such drills improve the circulation, and should be started long before the men have to go in the trenches.

The following preventive treatment will be carried out, either by divisions (at the main dressing stations), or regimentally in a hut or building set apart for the purpose. The treatment will include the use of:

(*a*) A soap made of soft potash soap, 1,000 parts; powdered camphor, 25 parts; powdered sodium borate, 100 parts, and (*b*) a powder composed of powdered talc, 1,000 parts, and camphor, 25 parts.

A teaspoonful of powder and ¼ ounce of soap will be required for each man.

The quantities of the ingredients required per division per week are, experimentally, potash soap, 300 pounds; camphor, 22 pounds; sodium borate, 35 pounds; talc powder, 500 pounds.

The feet will be washed in hot water with ordinary soap, then in hot water with the soap (*a*). They will next be carefully dried, and the nails will be attended to by the chiropodist. Particular care must be taken to clean out the grooves at the sides of the nails. Finally the feet will be dusted with the powder (*b*), a little of which will also be dusted into the socks. (In each trench foot prophylaxis, there is a central low table with a half inch of talcum powder spread over the top, over which the men walk barefooted in order to run the powder thoroughly over the feet. The socks are also turned inside out and thoroughly dusted with the same powder. This method has been found to be most rapid and thorough.) The men are then ready to go in the trenches.

While in the trenches, his boots and socks will be taken off at least twice a day. The men will be told off in pairs, and each man will be held responsible for the feet of his comrade. He will first dry and then massage the latter's feet from the toes upward. He will then dust some of the powder over the feet, between the toes, and into the socks. This treatment renders the feet antiseptic, gives rise to a very pleasant aromatic smell of camphor, and is very popular with all ranks.

Cure.—The measures detailed above will, if carried out thoroughly, reduce the numbers of cases of trench foot to a minimum, but they will not abolish them altogether. The application of the preventive treatment will result in a much milder class of cases, and these cases will be cured by the following treatment which will include the use of:

(*a*) The soap prescribed in (*a*) above.

(*b*) Camphorated oil.

(*c*) Camphor and ether solution, namely, camphor, 30 parts; ether, 1,000 parts.

(*d*) A spray of hydrogen peroxid, 10 volumes; 1 per cent. solution of sodium borate, 10 volumes.

(*e*) Boracic camphorated solution, namely, powdered camphor, 17 grains; borax, ½ ounce; boiled water, 1 quart.

Wash the feet with soap (*a*) and warm water. Cut and clean the nails, taking particular care with the grooves at the sides of the nails. Wrap the feet in absorbent cotton-wool soaked in solution (*e*). Cover this with gauze soaked in the same solution, being careful to include the toes. Apply jaconnet and loose bandage. Renew the dressings every day until the swelling and edema disappear. This frequently takes place in three or four days. The jaconnet can then be discontinued. Then anoint the feet every day with camphorated oil until the feet are quite cured. Small blisters or bullae need not be opened. Large ones, however, are freely excised aseptically and treated with solution (*c*).

In the graver forms with extensive sloughing, gangrene and suppuration, each dressing is preceded by spraying with the spray (*d*). It is necessary to remove sloughs as soon as possible, in order to get at the infective agents which multiply under the black patches; but care should be taken not to open up fresh channels of infection by too much surgical interference. Sores should not be made to bleed; only those portions should be removed which can be detached easily with forceps. Diseased portions of bone should be allowed to come away without help from bone forceps.

A dose of antitetanic serum should be invariably given in all cases. Where ulceration exists, the dose is repeated once weekly.

The effect of this treatment is most remarkable in promoting a healthy action in sloughing ulcers, rapid healing and cessation of pain. In fairly severe cases, the swelling quickly subsides and the men are fit for duty in two or three weeks.

The early application of the treatment is most important, and it is a mistake for men not to report sick early.

A continuance of exposure to wet and cold may cause loss of foot or limb.

Keep cases in the C. C. S., if possible, for five or six days, as this is the dangerous period. Evacuated cases should be lying, not sitting. This is most important; placing the feet in a dependent position favors sloughing and retards recovery.

Trench foot is favored by standing in wet boots and is aggravated by the use of tight boots, tight puttees and the wearing of anything causing constriction of the lower limbs. Action on the following lines, in addition to the preventive treatment given above, will, therefore, be carefully and systematically carried out:

(*a*) Trenches will be kept as dry as possible.

(*b*) Men in water-logged trenches will be relieved every twenty-four hours, if possible.

(*c*) Rubber boots are to be worn in water-logged trenches, or boots two sizes too large and very loosely laced.

(*d*) No puttees should be worn in the trenches.

(*e*) Extra pair of socks for every man in the trenches. (The men are now given three pairs of socks before they go up to the front lines; they should be provided with an extra pair of boots.)

(*f*) Encourage the men in the trenches to move about. Do not allow the men to hold their feet near a fire or to dip them in hot water.

(*g*) Warm food, hot drinks, shelter and warmth are to be provided for the men in the trenches.

(*h*) On leaving the trenches after a tour of duty, the men should remove wet boots and socks, thoroughly dry rub the feet, and put on dry socks and dry boots.

CORPS DELOUSING STATION

It is wellnigh impossible to live in the zone of the advance without becoming "lousy." The station visited consisted of a stone building, with barracks for the men. While the latter are having a hot shower bath, with soap and soft brush, their clothes and leathers are being deloused. Air tight chambers with sliding doors, each capable of containing 300 pieces of clothing, hung on racks, are heated up to 214 for ten minutes, followed by dry heat for ten minutes, in order to dry the clothing. The leathers are treated in a separate chamber. The steam is turned on until the thermometer registers 200; it is then turned off until the thermometer drops down to 190, when the sliding door is opened and the leathers, strung on racks, are put in. The door is closed and hot air is turned in for half an hour. This method has been

found not to injure leather. Both clothes and leathers are thoroughly dry after they have been given a shaking in the air, and they are immediately returned to the men in the bathing huts, who have been given numbered disks which correspond to those tied on to their clothing and leathers. The system is rapid, thorough, and has given perfect satisfaction. Before they take their bath, the men are regularly inspected by a junior medical officer for skin diseases, etc. There are separate cabins or rooms for the officers.

THE BRITISH EVACUATION HOSPITALS OR CASUALTY CLEARING STATIONS

Owing to the exposed nature of the terrain and the constant harassing warfare carried out in the British sectors, the casualty clearing stations have been subjected to repeated bombardment by long distance guns or avion bombs. Several of them have been destroyed; others severely damaged. The result has been to place them much farther behind the lines than the corresponding French formations. This fact must not be lost sight of, while attempting to draw any comparisons. Again, largely owing to their precarious positions, the majority of them are still housed in tents or marquees, instead of wooden barracks. The experience of the British army has been that a tent which has been in place for four months cannot be taken down and moved without being torn to pieces. It is estimated that only about 10 per cent. of a tent can be salvaged on moving camp. They are looked on as expensive in the long run, cold, easy to catch on fire, and very liable to blow down during a hurricane. Semicircular corrugated iron barracks, containing forty-four beds, are now replacing the tents. Wooden or corrugated iron barracks are used for operating rooms.

Each casualty clearing station is based on a capacity of 300 beds, but the majority have expanded to 1,000 beds. It is freely admitted that during a "show," primary suturing is never attempted on account of insufficiency of operating teams and lack of beds. The wounds are surgically excised and the wounded sent down to the base by hospital train from twenty-four to forty-eight hours later, if transportable. The patients who have to remain longer become very nervous and apprehensive, on account of the constant noise of British and enemy aeroplanes and the occasional bombing at night.

The research casualty clearing station has been conducting a series of experiments in order to determine the value of primary closure of wounds and the relative value of various solutions. The presence of hemolytic streptococci in culture is regarded as a contraindication to primary suture, yet the tendency is to rely more and more on the general clinical aspect of the wound and patient, and less and less on the laboratory report. While the research casualty clearing station is not yet ready to render a final report on the various solutions employed, the results so far tend to prove that the sine qua non of success lies, not in the antiseptic used, but in the radical excision of devitalized tissues.

Joint injuries are being closed primarily, after removal of foreign bodies, including projectiles and lavage with physiologic sodium chlorid solution. Methylated spirit is used for cleansing and irrigating wounds, as it is cheaper than ether. Drainage in joint cases is restricted to those presenting extensive comminution of bone, particularly of the head of the tibia.

The bismuth, iodoform and liquid petrolatum paste (bipp) of Rutherford Morrison is used once in extensive wounds. If the paste is repeatedly applied, the granulations become weak and show a tendency to break down. The present plan of treatment is to apply the paste once, and then use methylated spirit for subsequent dressings.

HEMOLYTIC STREPTOCOCCUS CAUSING SEVERE INFECTIONS AT CAMP ZACHARY TAYLOR, KY.

H. L. ALEXANDER, M.D. (NEW YORK)
Lieutenant, M. R. C., U. S. Army
LOUISVILLE, KY.

The acute infections seen at the base hospital of this camp, so far as they pertain to the respiratory tract, have undergone a changing history. In September and October they were principally pneumococcal in nature, producing occasional angina and lobar pneumonia. With the advent of a measles epidemic in November, bronchopneumonia, due largely to a streptococcus infection, became prominent, and a few cases of typical lobar pneumonia continued to occur. Empyema, mainly streptococcal, accompanying 30 per cent. of the pneumonias, some also appearing secondary to other foci, such as angina and tonsillitis, was of a particularly fatal nature. Otitis media then appeared frequently, sometimes associated with angina, but also occurring primarily. Mastoiditis caused by a hemolytic streptococcus was followed by a fatal septic meningitis in three instances. Toward the end of January the case incidence and bacterial virulence of these infections decreased, and as will be seen later, the biologic characters of the organism changed somewhat. The investigation here reported refers to patients seen in the base hospital where the more severe ones are sent, and to one localized outbreak occurring in camp, although milder infections with the organisms mentioned were prevalent throughout the cantonment.

In an attempt to define, if possible, the direct etiologic factor of these conditions, cultures were taken from affected tissues, and tabulations made of the various organizations from which the patients came. From 270 individuals 358 cultures were studied and classified as shown in Table 1.

The occurrence of other colonies in considerable numbers, when hemolytic streptococci predominated, were noted in the instances given in Table 2.

CULTURES OF HEMOLYTIC STREPTOCOCCI

Specimens were planted on 10 per cent. blood agar plates, and the growth noted after twenty-four hours' incubation. Hemolytic streptococci grew typically as small, round, gray, raised colonies with a wide surrounding zone of clearing, with the exception of a few cultures noted below. Transplants were then made into 1 per cent. glucose broth (ac. 0.1) which gave a sedimented growth in most instances. From this, organisms were studied morphologically, and it was noted that medium sized and long chained forms predominated. Tests for bile solubility, capsules, and inulin fermentation were made on thirty-five of the first 100 specimens selected at random, and also on all others showing turbidity on glucose broth, but in no instance were any of these positive.

No attempt was made to classify critically the strains examined other than to note hemolysis[1] and to grow twenty specimens selected at random on lactose and mannite serum water mediums. Of these, nine fermented both sugars, thereby identifying these strains with the group containing the *Streptococcus infrequens* and the *Streptococcus hemolyticus* 1, whereas eleven fermented lactose but not mannite, which places them in the group of *Streptococcus pyogenes* and *Streptococcus anginosus*. No salicin was available for final differentiation.

PATHOGENICITY

In some cases of empyema in which many aspirations had been performed, extending over considerable periods of time, it was noted that initial specimens gave typical growth with marked hemolysis, whereas in the later ones, hemolysis, although distinct, was not so striking. This could be largely restored by two passages through mice. Likewise, less abundant growth appeared in a few of these specimens, and in two instances, eventual aspirations resulted in sterility.

TABLE 1.—CLASSIFICATION OF CULTURES*

	Hemolytic Streptococcus	Nonhemolytic Streptococcus	Pneumococcus, Type I	Pneumococcus, Type II	Pneumococcus, Type IV	Pneumococcus, Unclassified	Micrococcus Catarrhalis	Staphylococcus Aureus	Staphylococcus Albus	Bacillus Mucosus-Capsulatus	No Predominating Organism	No Growth	Contaminated
Pleural fluid†	51	...	1	2	3	2	...	...	...	1	...	12	2
Tonsils	19	3	...	...	...	2	1	...	2	...	9	...	...
Throat (pharynx, larynx, etc.)	48	1	...	...	...	12	11	2	2	...	5	...	...
Sputum‡	22	...	8	8	13	...	...	...	...	...	3	...	...
Blood culture	6	...	3	2	...	...	...	...	...	...	...	42	3
Mastoid	9	...	...	...	...	...	...	...	...	...	...	3	...
Joints	3	...	...	...	...	...	...	...	...	...	...	...	...
Abscess (intramuscular, subcutaneous, lung)	6	...	...	...	...	...	...	1	...	...	1	...	...
Middle ear	2	...	...	...	...	1	...	...	...	...	...	...	...
Conjunctiva	...	...	...	...	...	1	...	...	1	...	1	...	...
Spinal fluid	2	...	...	...	...	...	...	...	...	...	...	...	...
Postmortem—													
Lung	8	...	...	1	...	...	...	...	...	...	...	...	...
Heart's blood	4	...	...	...	...	...	...	...	...	...	...	1	1
Pericardium	4	...	...	1	...	...	...	...	...	...	...	...	...
Mastoid cells	2	...	...	...	...	...	...	...	...	...	...	...	...
Lateral sinus	2	...	...	...	...	...	...	...	...	...	...	...	...
Abscess in brain	1	...	...	...	...	...	...	...	...	...	...	...	...
Peritoneum	1	...	...	...	...	...	...	...	...	...	...	...	...
Total	190	4	12	14	16	18	12	3	5	1	19	58	6

* Only predominating organisms are listed. Repeated specimens from one tissue of the same patient are listed as a single specimen. Cultures were taken from Dec. 27, 1917, to Feb. 12, 1918.

† Holman (Jour. Med. Research, 1916, **34**, 377), reporting 1,027 human strains of hemolytic streptococcus from various sources, found only twenty-six, or 2.4 per cent., in pleural fluids, as contrasted with 14.3 per cent. in these statistics.

‡ Determined by Avery and by mouse methods. Pneumococcus Type II represents five typical and three atypical strains.

Guinea-pigs and large white rats resisted intraperitoneal injections of 0.5 c.c. of an eighteen hour broth culture, whereas white mice of approximate weights reacted thus: to 0.1 c.c., found dead after sixteen hours; to 0.01 c.c., found dead after sixteen hours; to 0.001 c.c., died after twenty-three hours.

Table 3 indicates the distribution of men from whom cultures were taken. These represent the majority of organizations in camp, and prove the infection to be widespread.

Thirty-four men of the Three Hundred and Ninth Sanitary Train, for the most part convalescent from acute bronchitis and infections of the upper respiratory tract, were isolated. Their throat swabs revealed the predominance of hemolytic streptococci in twenty-four instances. Dust from the floors of two of the barrack buildings (Three Hundred and Thirty-third and Three Hundred and Thirty-fourth Field Hospitals), where most of these men had been quartered, yielded hemolytic streptococci both by direct culture and from injection of suspensions of such dust into the peritoneal cavities of weaning rats. Floor sweepings from one of the squad rooms of Company L, Three Hundred and Thirty-sixth Infantry, which contributed more cases than any other company, likewise revealed hemolytic streptococci. Also in one of the rooms of the base hospital devoted to convalescent patients, floor dust yielded hemolytic streptococci, although after special cleansing, no further streptococci could be found. These organisms gave cultural reactions identical to those isolated from patients, and by sugar fermentations fell into the pyogenes-anginosus group.

TABLE 2.—OCCURRENCE OF COLONIES WHEN HEMOLYTIC STREPTOCOCCI PREDOMINATED

Micrococcus catarrhalis	17	Influenza bacillus	1
Nonhemolytic streptococcus	6	Micrococcus tetragenus	1
Staphylococcus aureus	6	Large gram-negative bacillus, mucosus capsulatus group	5
Staphylococcus albus	4		
Diphtheroid bacillus	2		

Specimens of milk showed occasional colonies of hemolytic streptococci, although only one source was tested, whereas the camp is supplied by many.

From four sick horses at the remount station, nasal swabs grew hemolytic streptococci in three instances; but this organization is several miles from the camp proper, where relatively few horses are used.

No hemolytic streptococci were isolated from the soil of the trenches, where many soldiers are employed.

The only antistreptococcus serum available was a commercial product which, tested against various strains, in no instance showed agglutinins in dilutions from 1:10 to 1:100.

TABLE 3.—DISTRIBUTION OF MEN FROM WHOM CULTURES WERE TAKEN

	Company											Med. Dep.	Sup-ply	Total
	A	B	C	D	E	F	G	H	I	K	L	M	Hdq.		M.G.	
45 Inf.	1	..	2	..	1	2	..	3	1	..	..	..	..	..	1	..	11
46 Inf.	3	1	1	1	2	1	1	1	..	1	1	1	1	..	..	..	15
333 Inf.	1	1	2	..	1	..	..	2	1	3	..	1	1	1	..	1	15
334 Inf.	..	..	2	..	..	..	..	..	..	1	..	..	..	..	..	..	3
335 Inf.	4	1	1	2	2	1	4	3	2	..	..	..	..	..	3	1	24
336 Inf.	1	4	2	5	1	3	4	3	2	..	10	5	..	..	4	..	44

	159 Depot Brigade—Company													Total
	4	5	7	17	18	19	21	24	27	29	33	36	41	
	1	3	1	1	1	1	1	1	1	1	1	1	1	15

	Batt. A	Batt. B	Batt. C	Batt. D	Med Dep.	Total
325 Field Art.	..	..	1	..	..	1
326 Field Art.	2	2	1	2	1	8

	Company					Med. Dep.	1 Truck	2 Truck	Total
	1	2	2	1	2				
309 Eng.						1	..	..	9
309 Amm. Train	..	..	2	2	..	1	2	1	8
309 Amm. Train	..	..	1	..	1	..	..	..	2

	Field Hospital					
	333	334	335	336	Hdq.	Total
309 San. Train	12	9	6	7	1	35

Base hospital	13	Signal Corps	1
Q. M. C.	4	Officer's Training Bn.	1
309 Hdq. Troop	3	Recreation officer	1
325 M. G. Bn., Co. A	2	Casuals	3
327 M. G. Bn., Co. C	1	Nurses' home	2
Ordnance Dept.	1	Unclassified	28
Reg. Army Aviation Sec.	5		
Total			270

1. Blake, F. G.: Jour. Med. Research, 1917, **36**, 99.

Special Article

TYPHOID IN THE LARGE CITIES OF THE UNITED STATES IN 1917

SIXTH ANNUAL REPORT

THE JOURNAL presents its sixth annual survey[1] of typhoid fever mortality in cities of the United States having over 100,000 population. The cities included in the summary number sixty, and are the same as those reported last year.[2]

The cities in Group 1 do not for the most part show any very material change from last year. Baltimore, New York, Philadelphia and Cleveland again make excellent records. Baltimore reaches a new minimum rate, a rate so low, indeed, that it was beaten by only two cities in the group in the five-year averages, 1906-1910. In addition to the improvements in the Baltimore water supply, the health department has made a vigorous attempt to find any typhoid carriers there might be among persons engaged in food-handling occupations.

In New York, milk was again responsible for a small typhoid outbreak in Manhattan in the first quarter of the year, and a more extensive one in Staten Island in the summer, the latter outbreak numbering seventy-two cases. "Patient inquiry among all who had possibly come into contact with the milk finally showed that an individual employed by the firm distributing the milk in Richmond had in his family two active cases of typhoid with which he came into intimate contact. On one or more occasions this individual appears to have acted as the direct conveyer of the infection."[3]

TABLE 1.—DEATH RATES FROM TYPHOID IN CITIES OF GROUP 1 (OVER 500,000 POPULATION)

	Deaths from Typhoid per 100,000 Population 1917	1916	Average 1911-1915	Average 1906-1910
Chicago	1.7	5.2	8.2	15.8
Boston	2.9	3.5	8.0	16.0
New York	4.0	3.8	8.0	13.5
Philadelphia	6.2	7.8	11.2	41.7
Cleveland	7.1	5.3	10.0	15.7
St. Louis	7.5	9.4	12.1	14.7
Pittsburgh	11.2	8.6	15.9	65.0
Baltimore	15.5	18.0	23.7	35.1
Detroit	17.8	15.0	18.1	21.1

The chlorination of the Cleveland water continues to prove a source of trouble and complaint. Early in the year the chlorin dosage was materially reduced against the protest of the city health authorities. It is possible that the slightly increased typhoid rate in 1917 as compared with the preceding year may be connected with this action. St. Louis reached the lowest point in its whole typhoid history, with the exception of 1915, when the rate was about the same (7).

Perhaps the most interesting change in Group 1 is the dropping of Detroit to the very bottom of the list, a change which we apprehended a year ago might occur, although it could hardly have been anticipated that Baltimore would so soon change places with the former city. The contrast between typhoid in Detroit and typhoid in Boston, New York and Philadelphia is very striking. It is evident that excessive typhoid is still a live problem for Detroit citizens to consider.

TABLE 2.—DEATH RATES FROM TYPHOID IN CITIES OF GROUP 2 (FROM 300,000 TO 500,000 POPULATION)

	Deaths from Typhoid per 100,000 Population 1917	1916	Average 1911-1915	Average 1906-1910
Newark, N. J.	3.5	5.3	6.8	14.6
Cincinnati	4.1	3.4	7.8	30.1
San Francisco	4.9	3.4	13.6	27.3
Seattle	5.1	3.0	5.7	25.2
Los Angeles	5.2	3.1	10.7	19.0
Minneapolis	5.9	5.8	10.6	32.1
Milwaukee	5.9	14.9	13.6	27.0
Buffalo	10.1	10.9	15.4	22.8
Washington	13.2	12.6	17.2	36.7
New Orleans	23.0	23.4	20.9	35.6

Chicago reports figures much lower than those heretofore recorded. Attention was called in our fifth annual report to the plea made by the Chicago Health Department in October, 1916, for "utmost care in the filling out of certificates" with special reference to typhoid fever. Some statistical objection has consequently been made to a direct comparison of the reported typhoid deaths before and after the date of this action. In a word, it is considered uncertain how far the reported typhoid rate in Chicago for 1917 really compares with that of preceding years.

The cities included in Group 2 (from 300,000 to 500,000 population) have records for the most part very similar to those for 1916. San Francisco, especially, maintains its excellent standing of a year ago, the figures for 1916-1917 indicating a material reduction as compared with the quinquennium 1911-1915. New Orleans, on the other hand, is not keeping up to its preceding five-year record.

The most noteworthy change in this group is shown by Milwaukee, which drops to a relatively low rate. As pointed out in our fifth annual report, Milwaukee suffered in January, 1916, from a severe water-borne typhoid outbreak, due apparently to some failure in the chlorination process. The health commissioner of that city deserves great credit for maintaining efficient chlorination throughout 1917 in spite of repeated complaints and objections. He is quoted in a Milwaukee paper as saying that "while the use of chlorin in the city water supply has its disagreeable features, it is absolutely necessary to use the chlorin in order to safeguard the health of the city." The continued use of chlorin in the water, he stated, was the penalty

TABLE 3.—DEATH RATES FROM TYPHOID IN CITIES OF GROUP 3 (FROM 200,000 to 300,000 POPULATION)

	Deaths from Typhoid per 100,000 Population 1917	1916	Average 1911-1915	Average 1906-1910
St. Paul	2.4	4.9	9.2	18.3
Rochester, N. Y.	3.1	5.1	9.6	12.8
Jersey City	3.2	6.8	7.2	12.6
Denver	5.1	7.2	12.0	37.5
Providence, R. I.	5.4	5.1	10.2	14.3
Portland, Ore.	5.5	4.6	10.8	23.2
Columbus, Ohio	7.6	13.4	15.8	40.0
Indianapolis	10.0	26.6	20.5	30.4
Kansas City, Mo.	10.0	10.6	16.2	35.6
Louisville, Ky.	12.2	9.7	19.7	52.7

1. The preceding articles were published May 31, 1913, p. 1702; May 9, 1914, p. 1473; April 17, 1915, p. 1322; April 22, 1916, p. 1305, and March 17, 1917, p. 845.

2. The number of typhoid deaths has been sent us by the local officer of health, and the rates have been calculated on the basis of population estimates made according to the method of the U. S. Census Bureau. It may perhaps be noted that the figures kindly furnished us by the municipal officials include the deaths of nonresidents as well as residents occurring within the city limits. In some instances this undoubtedly gives an exaggerated impression of the amount of typhoid fever in a community, but at present statisticians are agreed that "the attempt to eliminate the deaths of nonresidents would often result in an understatement of the true mortality" (Bureau of the Census, Mortality Statistics, 1912, p. 13).

3. Weekly Bull., Dept. of Health, New York City, Sept. 22, 1917.

people must pay for mistakes of the past. "Ample warning was given and given often, but Milwaukee continued to disregard the warnings and continued to pour raw sewage into its drinking water with the results that might be expected." Milwaukee is to be congratulated on having a health commissioner who stands by his guns. It is expected that a new water intake will be completed in September of the current year, and that the danger of contamination will be considerably diminished.

TABLE 4.—DEATH RATES FROM TYPHOID IN CITIES OF GROUP 4 (FROM 125,000 TO 200,000 POPULATION)

	Deaths from Typhoid per 100,000 Population 1917	1916	Average 1911-1915	Average 1906-1910
Oakland, Calif.	1.9	4.0	8.7	21.5
Worcester, Mass.	4.8	3.7	5.0	11.8
Scranton, Pa.	6.0	5.4	9.3	31.5
Syracuse, N. Y.	6.3	12.2	12.3	15.6
Omaha	6.4	5.1	14.9	40.7
Richmond, Va.	7.0	24.1	15.7	34.0
Spokane, Wash.	7.1	2.0	17.1	50.3
New Haven, Conn.	9.2	8.0	18.2	30.8
Toledo, Ohio	9.7	22.9	31.4	37.5
Paterson, N. J.	11.3	1.4	9.1	19.3
Atlanta, Ga.	16.8	17.9	31.4	58.4
Fall River, Mass.	16.9	10.9	13.4	13.5
Memphis, Tenn.	21.1	36.3	42.5	35.3
Birmingham, Ala.	54.1	42.6	....	....

Group 3 (from 200,000 to 300,000 population) makes the best record of any of the five population groups. Seven of the ten cities have a lower rate than in 1916, and the group-rate shows the greatest proportionate reduction (Table 7). Three of the cities report rates under 5.0 (St. Paul, Rochester and Jersey City).

Indianapolis shows a marked decline from the relatively high typhoid rate of 1916, and now ranks well with other northern cities. During the past year, considerable criticism has been expressed about the sanitary conditions in Indianapolis. Among other things, the extension of the sewerage system and the enforcement of sewer connections in the more settled parts of the city have been specifically urged. In this connection it was pointed out that in 1916 some 20,000 open vaults existed in Indianapolis. If this is still the case, the powder magazine is evidently ready for the spark which shall touch it off. It will be noticed from the table that the 1911-1915 average in Indianapolis was the highest in the group. It is to be hoped that the marked improvement shown in the 1917 record is an indication that Indianapolis has turned the corner toward genuine sanitary betterment.

TABLE 5.—DEATH RATES FROM TYPHOID IN CITIES OF GROUP 5 (FROM 100,000 TO 125,000 POPULATION)

	Deaths from Typhoid per 100,000 Population 1917	1916	Average 1911-1915	Average 1906-1910
Tacoma, Wash.	2.5	3.5	10.4	....
Camden, N. J.	3.7	11.3	4.5	....
Cambridge, Mass.	4.4	0.9	4.0	9.8
New Bedford, Mass.	5.7	4.2	15.0	16.1
Springfield, Mass.	6.4	4.7	17.6	....
Bridgeport, Mass.	6.4	9.0	5.0	10.3
Lowell, Mass.	6.9	11.4	10.2	13.9
Reading, Pa.	7.4	18.7	31.9	42.0
Albany, N. Y.	10.5	7.7	18.6	17.4
Grand Rapids, Mich.	12.2	15.6	25.5	29.7
Trenton, N. J.	12.3	6.3	22.3	....
Hartford, Conn.	13.3	6.3	15.9	19.0
Dayton, Ohio	13.7	14.7	14.8	22.5
Salt Lake City	18.1	10.2	13.2	....
Nashville, Tenn.	18.3	27.3	40.2	61.2
Dallas, Texas	19.4	27.5	....	....
San Antonio, Texas	25.7	16.9	29.5	....

In the course of the year some discussion has occurred as to the character of the Rochester water supply. An investigation was made by officials of the New York State Department of Health, and a reassuring report on the quality of the supply was published. The low typhoid rate in Rochester does not indicate that contamination of the public water supply has played any important part in the production of typhoid fever in that city. Louisville, although showing a slight increase as compared with 1916, has maintained a relatively satisfactory position.

The cities of Group 4 show in many instances an improvement on the 1916 record. Especial attention may be directed to the low rates in Oakland, Worcester, Scranton, Syracuse and Omaha. The 1916-1917 rates in all these cities indicate a still further reduction for the current five-year period over the relatively low averages, 1911-1915. The same is true of New Haven, which for the second time shows a rate under 10.

Perhaps the most significant typhoid diminution in this group is that shown by Richmond, Va. There now seems little doubt that in the past few years Richmond has suffered considerably from water-borne typhoid. The special efforts recently focused on this source of trouble have apparently reduced the typhoid rate to the lowest point in the city's history, and a rate that for a Southern city must be considered remarkably low. Typhoid reduction in Richmond in the past ten years reflects great credit on the health administration.

TABLE 6.—DEATH RATES FROM TYPHOID IN 1917

First Rank (Under 5.0)			
Chicago	1.7	Newark, N. J.	3.5
Oakland, Calif.	1.9	Camden, N. J.	3.7
St. Paul	2.4	New York	4.0
Tacoma, Wash.	2.5	Cincinnati	4.1
Boston	2.9	Cambridge, Mass.	4.4
Rochester, N. Y.	3.1	Worcester, Mass.	4.8
Jersey City	3.2	San Francisco	4.9
Second Rank (5.0-10.0)			
Denver	5.1	Omaha	6.4
Seattle	5.1	Springfield, Mass.	6.4
Los Angeles	5.2	Lowell, Mass.	6.9
Providence, R. I.	5.4	Richmond, Va.	7.0
Portland, Ore.	5.5	Cleveland	7.1
New Bedford, Mass.	5.7	Spokane, Wash.	7.1
Minneapolis	5.9	Reading, Pa.	7.4
Milwaukee	5.9	St. Louis	7.5
Scranton, Pa.	6.0	Columbus, Ohio	7.6
Philadelphia	6.2	New Haven, Conn.	9.2
Syracuse, N. Y.	6.3	Toledo, Ohio	9.7
Bridgeport, Conn.	6.4		
Third Rank (10.0-20.0)			
Indianapolis	10.0	Hartford, Conn.	13.3
Kansas City, Mo.	10.0	Dayton, Ohio	13.7
Buffalo	10.1	Baltimore	15.5
Albany	10.5	Atlanta, Ga.	16.8
Pittsburgh	11.2	Fall River, Mass.	16.9
Paterson, N. J.	11.3	Detroit	17.8
Louisville, Ky.	12.2	Salt Lake City	18.1
Grand Rapids, Mich.	12.2	Nashville, Tenn.	18.3
Trenton, N. J.	12.3	Dallas, Texas	19.4
Washington, D. C.	13.2		
Fourth Rank (Over 20.0)			
Memphis, Tenn.	21.1	San Antonio, Texas	25.7
New Orleans	23.0	Birmingham, Ala.	54.1

Toledo, for the first time, shows a substantial reduction in the typhoid rate. It is no longer in the fourth rank (cities with a typhoid rate of over 20), whereas in 1916 it was the only Northern city in that unenviable position.

Paterson and Fall River show considerable increases over 1916. We are informed that special investigations of the typhoid conditions in Fall River have been made with the cooperation of the state department of health, but that the precise cause for the increase has not been ascertained. The higher rate for Paterson seems to be due to a typhoid epidemic

in a neighboring town. Since there were no local facilities for caring for the sick, the patients were sent to the Paterson hospitals. It is thought that the increase in the Paterson figures can be largely, if not altogether, accounted for in this way.

The typhoid rate in Atlanta continues to show improvement, and the Memphis rate is the lowest ever recorded. Birmingham shows a disturbing increase in a rate already far too high. Why should Birmingham have three times as much typhoid as Atlanta?

TABLE 7.—AVERAGE DEATHS FROM TYPHOID PER HUNDRED THOUSAND IN EACH GROUP, 1916 AND 1917

Group	Year	Number of Cities*	Total Population	Number of Deaths	Average Deaths per 100,000
1	1916	9	13,743,746	854	6.2
1	1917	9	14,027,263	774	5.5
2	1916	10	4,053,281	344	8.5
2	1917	10	4,150,099	329	7.9
3	1916	10	2,635,983	248	9.4
3	1917	10	2,701,029	173	6.4
4	1916	14	2,250,991	330	14.7
4	1917	14	2,310,372	307	13.3
5	1916	17	1,983,918	235	11.8
5	1917	17	2,031,313	229	11.3
Total	1916	60	24,667,919	2,011	8.1
Total	1917	60	25,220,076	1,812	7.2

Group 5 (from 100,000 to 125,000 population), considered as a whole, shows less improvement over the 1916 rate than any of the other groups. Reading attains a remarkably good position, the typhoid rate in this city for 1917 contrasting very sharply with that for the preceding ten years. New Bedford and Lowell also make a good showing. Salt Lake City for some reason records a relatively high rate, while, on the other hand, Nashville reports typhoid figures that are most encouraging and that mark the beginning of a new period in the sanitary history of that city. Nashville passes for the first time into the rank of cities with a typhoid rate less than 20. Those familiar with Nashville conditions in the past will realize the amount of vigilance and unremitting labor necessary to bring about this result. As the work of establishing sewer connections in that city progresses, further improvement in the typhoid rate may be expected.

Dayton seems to have a relatively high rate for a Northern city, and does not show as marked improvement in the past two years as do some other cities in this group. A careful study of typhoid in Dayton in 1917 was made by the health commissioner, the study apparently indicating that the lack of sewer connections has a good deal to do with the occurrence of typhoid in that town.

TABLE 8.—TOTAL AVERAGE TYPHOID DEATH RATE (1910-1917)

	Total Population (57 Cities)* Estimated by U. S. Census Bureau Methods	Typhoid Deaths	Typhoid Death Rate per 100,000
1910	20,996,035	4,114	19.59
1911	21,545,014	3,391	15.74
1912	22,093,993	2,775	12.56
1913	22,642,972	2,892	12.77
1914	23,191,951	2,408	10.38
1915	23,740,930	2,068	8.71
1916	24,205,359	1,842	7.61
1917	24,740,068	1,647	6.65

* Three cities are omitted from this summary because data for the full period are not available.

In 1917, thirty-one cities had a lower typhoid rate than in 1916; twenty-nine a higher. Thirty-seven cities had a typhoid rate under 10, as compared with thirty-five in 1916 and thirty-two in 1915. Fourteen cities had a death rate from typhoid fever under 5 in 1917, as compared with sixteen in 1916. In 1917, five cities reached a rate below 3. These are Chicago, Oakland, St. Paul, Tacoma and Boston.

Perhaps the most encouraging changes in our tabulation consist in the lowering of the total typhoid rate from 7.61 in 1916 to 6.65 in 1917 (Table 8), and in the fact that only four cities — all of them in the South — are left in the fourth rank (typhoid rates over 20). Three years ago (1914) there were thirteen cities in this rank. Only four cities were in the first rank three years ago, as compared with the present number of fourteen in 1917. The greatest improvement in rank in 1917 as compared with the preceding year seems to be made by Toledo, Richmond and Camden, each of these cities advancing two ranks: Toledo, from fourth to second; Richmond, from fourth to second, and Camden, from third to first.

New and Nonofficial Remedies

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED AS CONFORMING TO THE RULES OF THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR ADMISSION TO NEW AND NONOFFICIAL REMEDIES. A COPY OF THE RULES ON WHICH THE COUNCIL BASES ITS ACTION WILL BE SENT ON APPLICATION. W. A. PUCKNER, SECRETARY.

ARSENOBENZOL (Dermatological Research Laboratories).—A brand of arsphenamine (see New and Nonofficial Remedies, 1918, p. 44).

Manufactured by the Dermatological Research Laboratories, Philadelphia Polyclinic, Philadelphia, Pa., under U. S. patent Nos. 986,148 (March 7, 1911; expires 1928), 1,081,897 (Dec. 16, 1913; expires 1930), 1,081,591 (Dec. 16, 1913; expires 1930), and 1,116,398 (Nov. 10, 1914; expires 1931) by license of the U. S. Federal Trade Commission.

The following dosage form has been accepted:

Arsenobenzol (Dermatological Research Laboratories) 1 Gm. Ampules.—Each hermetically sealed ampule contains arsenobenzol (Dermatological Research Laboratories) 1 Gm. Prepared for use in hospitals in divided doses.

HALAZONE. — Parasulphonedichloramidobenzoic acid. — $C_6H_4(SO_2NCl_2)COOH$—1 : 4.

Actions, Uses, Dosage, Physical and Chemical Properties.— See New and Nonofficial Remedies, 1918, p. 159.

Halazone-Monsanto.—A brand of halazone complying with the N. N. R. standards.

Manufactured by the Monsanto Chemical Works, St. Louis. No U. S. patent or trademark.

PROCAINE.—$CH_2(C_6H_4.NH_2.COO).[N(C_2H_5)_2].CHl$. The monohydrochloride of para-aminobenzoyldiethyl-amino-ethanol.

Actions, Uses, Dosage, Physical and Chemical Properties.— See New and Nonofficial Remedies, 1918, p. 32.

Procaine-Abbott.—A brand of procaine complying with the N. N. R. standards.

Manufactured by the Abbott Laboratories, Chicago, under U. S. patent No. 812,554 (Feb. 13, 1906; expires 1923) by license of the U. S. Federal Trade Commission.

Lead and the Birth Rate.—Lead poisoning has a malign effect on the birth rate and infant mortality. The effect on the developing embryo is particularly disastrous. Adami tabulates 88 pregnancies in women with lead poisoning that resulted as follows: abortions, premature labor and stillbirths, 71; infants born living, 17, five of which died within one year.—H. G. Palmer, M.D., *Bulletin*, R. I. Board of Health.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

535 NORTH DEARBORN STREET . . . CHICAGO, ILL.

Cable Address . . . . "Medic, Chicago"

Subscription price . . . . . Five dollars per annum in advance

Contributors, subscribers and readers will find important information on the second advertising page following the reading matter

SATURDAY, MARCH 16, 1918

TYPHOID IN AMERICAN CITIES

In this issue[1] is the sixth annual summary of typhoid death rates in American cities of over 100,000 inhabitants. It need hardly be said that absolute accuracy is not claimed for these figures. Clerical errors are occasionally made in reporting figures to us and exact verification is naturally impossible. It is evident, too, that the usage in reporting typhoid deaths varies somewhat in different communities so that the recorded death rates are in some instances not strictly comparable. One source of error and misapprehension to which reference has been specifically made (see footnote, page 777) is the inclusion of deaths of non-residents occurring in city hospitals along with the deaths properly attributed to the city's own population. This procedure naturally tends to exaggerate city typhoid rates generally as compared with the rates in the neighboring suburbs and rural communities. There is, however, no satisfactory means of controlling data of this sort, and it is believed that the practice we have followed in this particular is in general not unfair, especially when the same method is observed consistently through a series of years. It must be remembered also that if non-resident deaths were eliminated from the city figures in each case, it would still not be possible to include the deaths of residents occurring outside the city itself or the deaths due to infection contracted by non-residents within the city limits. In no case can it be maintained that exact accuracy is secured, and the figures that we employ can be regarded as only an approximation.

Making all reservations as to the precision and completeness of the statistical data furnished us, it may be considered that these typhoid summaries have a definite value. It may be true that the relative differences in the typhoid death rates of cities with rates under 5.0 per 100,000 are not specially significant, but there can be little doubt that the difference between those with rates under 5.0 and those with rates over 15.0 is significant and should be taken into account by public health authorities. There is reason to believe, also, that the annual typhoid summaries printed by THE JOURNAL have had a real influence in stimulating local interest in the typhoid situation, and in a number of instances in causing methods of sanitary reform to be set on foot. THE JOURNAL has received so many communications to this effect that there is no escape from the conclusion that these annual summaries have been useful to members of the profession and to health officials in many places.

It is of great interest to note the remarkable decline in the total average typhoid rate that has occurred in the large cities of this country since 1910. Whatever be the statistical objections in regard to accepting the figures on their face value, it can hardly be questioned that a very great improvement has taken place in the typhoid situation in this country since the publication of these annual summaries was first begun. The 1917 typhoid death rate in a population of approximately 25,000,000 will bear comparison with the rate in a similar population anywhere in the world. The health officials of American cities deserve great credit for this improvement which has, to a large extent, freed sanitary science in this country from the reproach of excessively high city typhoid.

1. Page 777.

CREATININ AND CREATIN IN THE BLOOD

The more recent quantitative microchemical studies of the blood have indicated that among the nonprotein nitrogenous constituents the estimation of creatinin is likely to be of especial service from a diagnostic and prognostic standpoint. There are few, if any, normal nitrogenous components of the urine for which the kidneys are more permeable; so that when creatinin begins to accumulate in undue proportions in the circulating blood, there can be little question as to the seriousness of the finding.

But what constitutes an abnormally high content of creatinin in the blood? Folin and Denis placed the normal limits at from 1 to 1.4 mg. per hundred c.c.; according to Myers and Fine, who have accumulated exceptionally extensive statistics on this question, the range is set at from 1 to 2 mg. Other investigators have been in essential accord with such figures. Only Gettler and Baker[1] indicate 0.5 mg. as the upper limit of normality; and they have reported many specimens of normal blood to contain as little as 0.1 mg. The problem of establishing definitely a standard of composition is further complicated by the fact that creatinin has been demonstrated to occur in the corpuscles as well as in the plasma. Obviously only the plasma component can be concerned directly in the passage of creatinin in or out of the circulation. As a recent writer has expressed it, the accumulation of creatinin in the blood has shown itself to be a useful index of

1. Gettler, A. O., and Baker, J.: Jour. Biol. Chem., 1916, **25**, 211. Gettler, A. O.: Jour. Biol. Chem., 1917, **29**, 47.

renal insufficiency; but we are as yet unaware whether the excess present in the circulation of a nephritic permeates all the elements of the blood, or accumulates in the plasma alone. If the latter alternative should prove to be correct, the variations of the plasma creatinin in kidney disease would be even more striking than those of the whole blood creatinin, and would form a still more delicate index of the organ's capacity to excrete. A separate study of plasma and whole blood creatinin and creatin in different pathologic conditions might even reveal significant variations in the permeability of the corpuscles for these substances.

Thanks to the researches of Wilson and Plass,[2] of the Johns Hopkins Medical School, and more recently of Hunter and Campbell[3] at the University of Toronto, it seems conclusive now that in general the creatinin of normal human blood is distributed among its different elements at a practically uniform concentration. It is not confined more particularly to either plasma or corpuscles. The figures ascertained for the plasma indicate, therefore, also the true creatinin content of whole blood. According to Hunter and Campbell, the creatinin content of normal human blood plasma ranges under different conditions from 0.7 to 1.3 mg. per hundred c.c., the average for sixty specimens examined being 1 mg. This is in substantial agreement with the figures of all the previous workers except Gettler, whose divergent results were reported above.

With respect to the content of creatin in the blood, the conditions are apparently unlike the equal distribution of creatinin. Hunter and Campbell believe that the creatin is chiefly concentrated in the corpuscles. With the method used, exact determinations were unattainable; but it is roughly estimated that the average creatin content of the corpuscles lies between 6 and 9 mg. per hundred c.c., while that of the plasma is not more than from 0.4 to 0.6. The blood as a whole contains apparently an average of about 3 mg. per hundred c.c. There seems to be more in the blood of females than of males. In other words, the corpuscles contain from five and a half to ten times as much creatin as creatinin, while in the plasma it is the latter that is predominant.

The Toronto investigators point out that the blood creatinin is apt to be lower in females than in males, and lower in subjects deprived of exercise than in those leading an active life. It is suggested that the blood creatinin is related to muscular development in much the same way as the creatinin coefficient of the urine. We have already discussed the peculiar occurrence and as yet unknown significance of creatin in the urine. Hunter and Campbell have found this substance present at times in the blood. They state that there is a distinct correspondence between increase of plasma creatin and the appearance of creatin in the urine; but whether the plasma, in the absence of creatinuria, is creatin free or whether there exists a threshold for creatin excretion has not been positively determined. If there is a threshold, it is a very low one.

2. Wilson, D. W., and Plass, E. D.: Jour. Biol. Chem., 1917, **29**, 413.

3. Hunter, A., and Campbell, W. R.: The Amount and the Distribution of Creatinine and Creatine in Normal Human Blood, Jour. Biol. Chem., 1918, **33**, 169.

MENINGOCOCCUS CARRIERS

There have been approximately 1,500 cases of meningitis since last summer among our troops assembled in the various Army encampments. This is a much higher rate of incidence than has existed in any civilian population of similar size in this country during this period. In Chicago during the whole year 1917 only 354 cases were reported, and this was an incidence three times as high as in 1916. Even if there were no European experience to guide us, therefore, we should have convincing evidence of the special prevalence of meningitis among the new recruits in military organizations.

Nearly all observers of the epidemiology of meningitis have laid great stress on the rôle of meningococcus carriers in spreading infection. THE JOURNAL has previously discussed various aspects of this question. Under the acid test of practical experience, new views about the significance of carriers and about the methods of practical procedure are finding expression. From the administrative standpoint probably the most important of these differences concerns the measures that should be taken for control in the Army organization. Two quite divergent opinions have found advocates: one, that it is desirable and practicable to examine all the troops in an encampment, to eliminate all or most of the carriers and thus stop or greatly limit the spread of infection; the other, that the search for carriers is of doubtful value, and if pushed to its logical conclusion would seriously cripple military efficiency. The latter view has been especially expressed as the result of experience at the Great Lakes Naval Training Station.[1]

The difference in these two views with their momentous practical corollaries is so great as to require serious consideration at this time. If it is true, to quote the report of Mink,[1] that "measures to control the disease through the carrier method are absolutely worthless," then preventive measures should be based on the elimination of predisposing causes rather than on sources of infection. No one questions the great influence of inadequate clothing, improper housing and possibly fatigue in increasing the susceptibility to cerebrospinal fever among troops; but there is abundant evidence that these are not the only factors that facilitate infection. It is a common

1. Mink, O. J.: Points in the Epidemiology of Meningitis, abstr., THE JOURNAL A. M. A., Feb. 23, 1918, p. 563.

observation that within the same military organization certain units are stricken much more severely than others under substantially similar conditions of housing and weather. When meningitis is studied by the spot map method, definite foci of infection will often be distinguished, and these foci are at points where no material differences in predisposing influences can be detected. The explanation usually given for the development of these meningitis foci at certain points and not at others is that meningococcus carriers are particularly numerous or particularly dangerous at the affected localities. Many bacteriologic observations in this country and abroad support this view. It is rather suggestive that no specific interpretation of meningitis foci based on differences in the action of predisposing factors has been established. It is also true that so-called seasoning or hardening influences are not universally effective in modifying the occurrence of meningitis. Foster and Gaskell point out that the epidemic of meningitis among the British troops in the spring of 1915 occurred when the troops were living under conditions considerably better than in the preceding autumn, and when they had become more acclimatized to their new mode of life. The same observers draw attention to the fact that there is no direct connection between a severe winter and an outbreak of cerebrospinal fever, some of the most severe epidemics in England having occurred with a mild winter. Rolleston[2] also gives figures showing that there were more cases in the personnel of the British navy in the third year of the war (143) than in the second (104), although there were fewer in the second than in the first (170), and he adds that "the absolute rise of the naval cases during the third year of the war corresponds with a rise in the number of cases in the civil and military population, and also with an increased percentage of carriers in the navy." Perhaps the most significant fact of all, however, is the one to which we have already referred, namely, the very definite localization of meningitis cases in army camps on some basis other than that of predisposing factors. Without underestimating in any degree the importance of predisposing influences in this infection, we are forced to regard them as only one element in the situation. Causes that affect individual susceptibility cannot be ignored in the practical control of meningitis; but we are not justified on that account in neglecting other measures of combating meningitis dissemination.

Probably the real issue is not so much the importance of meningococcus carriers as the practicability of segregating carriers while at the same time maintaining a reasonable degree of military efficiency. It will be generally admitted that more specific evidence is needed respecting the results actually accomplished by meningococcus carrier work in the Army camps. At the same time some of the criticisms of the effectiveness of this work are themselves of questionable cogency. In making comparisons of carrier conditions, the number of carriers in a unit is only one factor; we should also know the proportion of chronic carriers (probably the more dangerous type), the proportion of new recruits in the units that are compared, and the possible influence of overcrowding and other living conditions, as well as the period of time over which observations extend. It must not be forgotten that the examination of healthy persons in a locality where meningitis does not prevail and there is no obvious association with cases of the disease has shown the relative absence of carriers. One obvious difficulty in the way of satisfactory comparison is the evaluation of the relative efficiency of the methods of meningococcus isolation and identification in the hands of different investigators. The use of fairly uniform methods embodying the results of the latest experiences in this field would be a step in advance.

Respecting the feasibility of making meningococcus carrier examinations and utilizing the results under military conditions, we have quite a body of experience to draw on. It is rarely, if ever, that the examination of a large body of troops — say a division — will justify itself on grounds either of adaptation to the military situation or of control of epidemic spread. It is never possible to obtain absolute segregation of the military population from the surrounding civilians, or of the various units of the military group one from the other. The result is that new carriers are being more or less steadily created or introduced while the work is going on. The labors of Sisyphus were small in comparison with the attempt to find and segregate all the meningococcus carriers in an assemblage of 35,000 men.

It seems probable that the most useful practical procedure lies somewhere between the extremes of universal nasopharyngeal examination and no examination at all. If those soldiers who have been in close association with the one attacked by meningitis are examined, it is often found that one and possibly more of these "healthy contacts" is a carrier of large numbers of meningococci. Authenticated instances have been recorded in which the isolation of such a carrier has been followed by the cessation of meningitis in his organization. The inference also seems warranted that the failure to remove such a carrier early in his career is responsible for the development of the striking and characteristic meningitis foci already mentioned.

From the army standpoint it seems likely that the procedure here indicated can be carried out without undue interference with essential military needs. Prompt segregation of ten or twenty or more immediate contacts until the bacterial results are obtainable

2. Rolleston, H. D.: Cerebrospinal Fever in the Royal Navy, Lancet, London, 1918, 1, 87.

— say for a period of forty-eight hours — and isolation of the carriers found, only one or two of whom may prove to be chronic carriers, are not measures likely to produce serious disorganization of the camp activities. There is reason to believe that they will aid materially in preventing the development of meningitis foci. It goes without saying that there are military situations, as at an embarkation port, where even this measure of control can hardly be carried out. It will also be granted that a more comprehensive examination would show the presence of meningococcus carriers in troop units in which no case of meningitis had developed and did not develop through a long period of observation. Such carriers, however, evidently do not possess the urgent practical importance attaching to those carriers in the immediate vicinity of a case of meningitis. In a word, the prevention of the formation of meningitis foci would seem the most reasonable point of attack. Isolated or so-called sporadic cases of meningitis will always be likely to occur among new Army recruits and will often be very difficult or impossible to connect with any other center of infection. But careful inquiry will doubtless show that even in such cases a connection can be traced more frequently among soldiers whose movements can be fairly definitely ascertained than among members of the civilian population.

On the whole, the position that seems most clearly justified at the present time is not to abandon the examinations for meningococcus carriers, but to make such examinations on a reasonable scale under all conditions in which military exigencies do not forbid. To obtain the best results the examination should be made as soon as possible after the existence of a meningitis case is suspected, and the laboratory methods used should be rapid and precise. The available evidence indicates that such a procedure is valuable in checking the spread of meningitis. The success of preventive measures in any disease is beset with some degree of uncertainty. The fact that we cannot assert in any particular instance how many cases of meningitis have been prevented is no argument against the judicious application of meningococcus carrier control.

Delayed Reaction Time as a Cause of Aero Accidents.—The pupil may misjudge distances, and on examination one occasionally finds that his standard of vision is below normal; but, on the other hand, he may be found physically fit, with normal vision and good balancing power. In the latter cases it may be a question of delayed reaction time, especially the visual reaction time on which the aviator is so much dependent. Normally this reaction time takes 19/100 or 20/100 of a second. It may be delayed by fatigue, drugs and excesses, but, on the other hand, in some individuals, who are otherwise physically fit, it is found to be much slower than in others. Hence, in the selection of candidates for aviation, the visual and other reaction times must be up to the normal standard. By the French medical authorities on aviation candidates are rejected if the reaction times are found to be of the delayed type.—H. Graeme Anderson, Surgeon, R. N. Air Service, *Brit. Med. Jour.*, 1913, **1**, 73.

Current Comment

THE ARMY MEDICAL DEPARTMENT ENCOURAGING A FALLACY

The drug supplies that are being purchased by the medical department of the United States Army are commendably free from unscientific and worthless proprietary preparations. This is progress. One's optimism, however, is tempered in looking through a long list of drugs and chemicals on which bids are asked by the General Purchasing Office of the Medical Department, U. S. A. Item No. 148 of "Post Supplies" calls for three tons (in one pound bottles) of the "Compound Syrup of Hypophosphites"! It is safe to say that there is not a physician in one of the army posts who, if the question were put to him frankly, would admit that "Compound Syrup of Hypophosphites" belonged in the armamentarium of a scientific physician. Yet, six thousand bottles of this relic of a past generation are called for, are to be paid for and are to occupy valuable freight space in shipping to the various army posts. What utter waste! And what a reflection!!

MUNICIPAL SUPPORT OF HOSPITALS AND OF MEDICAL SCHOOLS

Like other large cities, Cincinnati has a large general hospital erected and maintained by the municipality. But it has, what no other city has, a municipally supported medical school — the medical department of the University of Cincinnati, which is supported by a municipal tax. Because of their joint municipal support, the recent development in both medical school and hospital has attracted considerable attention. Since 1914, a group of new hospital buildings, which provides for 850 beds, has been erected at a total cost of approximately $4,000,000. The new city charter, adopted recently,[1] places the control of this and the other hospitals of Cincinnati under the board of directors of the University of Cincinnati, and provides that the heads of the departments of the medical schools shall constitute the attending staff of the hospital. A school of nursing and health has also been provided for under the charge of the medical school. The new charter, therefore, not only provides the medical school with an abundance of clinical material, but also makes it possible for the university to provide the hospital with an attending staff that is entirely removed from politics. The medical school also in recent years has been undergoing considerable improvement. In the last eight years, in addition to the income from the university and from students' fees, the medical school has received over a million dollars in gifts from citizens of Cincinnati. Of this sum, about $600,000 has been expended in the erection and equipment of a new medical school building,

1. Closer Relationship Between the University of Cincinnati and the Cincinnati General Hospital, THE JOURNAL A. M. A., Feb. 9, 1918, p. 411.

which, as noted in our new columns last week,[2] has just been dedicated. This new building has been erected on property immediately adjoining the Cincinnati General Hospital which is in keeping with the closer relationship that has been established between the hospital and the medical school. Thus municipal responsibility for both medical school and hospital in Cincinnati has brought a relationship by which both may reach the highest stage of efficiency. This represents what should be done in other cities, where too often the splendid material available in large municipal or county hospitals cannot be or is not utilized, owing to a separate control over hospital and medical school, which is often made worse by a political favoritism by which the attending staff may be selected. It is only by the closest possible relationship that both medical school and hospital will be able completely to fulfil their functions and best serve the public. The medical school needs for teaching purposes the clinical material available in the hospital, and, on the other hand, the hospital needs what a high grade medical school is in position to supply, namely, an attending staff composed of high grade and progressive medical men who are not only imbued with the spirit of research, but who are also in touch with the latest and best methods of diagnosis and treatment, which they are in position to utilize in the care of the hospital patients. The service of our large city hospitals to the public will be greatly increased by a closer working relationship with high grade medical schools.

PURINS IN COW'S MILK

Ever since purin-free foods have found an application in dietotherapy, milk has been classed among the products that belong in this category, despite the fact that Burian and Schur long ago asserted that it contains small quantities of purin compounds. Voegtlin and Sherwin[3] of the Hygienic Laboratory of the United States Public Health Service have now actually isolated two well recognized purins in sufficient amounts to be able to identify them. They found that cow's milk contains at least 5 mg. of adenin and 10 mg. of guanin per liter (quart). It is obvious, of course, that such quantities can play only an insignificant part as sources of the so-called endogenous uric acid, usually amounting in adults to more than 300 mg. per day that is secreted in the urine. Hence for the purposes of the purin-free dietary, milk, in the quantities ordinarily consumed, may still be classed along with eggs, certain cereals, fruits and vegetables, as practically purin-free. Why adenin and guanin appear at all in the secretion of the mammary gland remains an interesting speculation. Either they are derived from the blood stream and excreted analogously to the urinary purin compounds, or they may be formed incident to the nuclear metabolism of the cells that are engaged in the manufacture of the milk solids.

2. THE JOURNAL A. M. A., March 9, 1918, p. 712.
3. Voegtlin, C., and Sherwin, C. P.: Adenine and Guanine in Cow's Milk, Jour. Biol. Chem., 1918, **33**, 145.

Medical Mobilization and the War

New Commandant for Medical Officers' Training Camp

Brig.-Gen. Henry P. Birmingham, M. C., N. A., has been relieved from duty in the office of the Surgeon-General of the Army and directed to proceed to Fort Riley, Kan., to inspect the Medical Officers' Training Camp at that post. On completion of this duty he is to proceed to Fort Oglethorpe, Ga., for duty as commandant of the Medical Officers' Training Camp at Camp Greenleaf.

Revision of Manual of Instructions for Medical Advisory Boards

As we go to press it is announced that a medical board consisting of Brig.-Gen. Charles Richard, M. C., N. A., and Major Frank Billings, M. R. C., has been appointed to revise the Manual of Instructions for Medical Advisory Boards working under the Selective Service Law. It is understood that the revision will be extensive and that the manual will be considerably abbreviated. The present manual, as our readers know, represents the work of a large board representing various specialties, together with representatives from the Medical Corps.

PERSONNEL OF THE MEDICAL DEPARTMENT

For the week ending March 8, 1918, the personnel of the Medical Department of the Army included:

MEDICAL CORPS: 796, including 1 major-general, 66 colonels, 102 lieutenant-colonels, 177 majors, 2 captains and 448 lieutenants.

MEDICAL RESERVE CORPS: 17,654, including 1,069 majors, 4,063 captains and 12,522 lieutenants. *On active duty:* 14,283, including 942 majors, 3,492 captains and 9,849 lieutenants.

MEDICAL CORPS, NATIONAL GUARD: 1,243, including 11 lieutenant-colonels, 257 majors, 149 captains and 826 lieutenants.

MEDICAL CORPS, NATIONAL ARMY: 70, including 4 brigadier-generals, 12 colonels, 49 lieutenant-colonels and 5 majors.

The DENTAL CORPS, 211; DENTAL RESERVE CORPS, 5,114, of whom 1,334 are on active duty; DENTAL CORPS NATIONAL GUARD, 260; VETERINARY CORPS, 24; VETERINARY RESERVE CORPS, 1,400, of whom 781 are on active duty; VETERINARY CORPS NATIONAL GUARD, 57; VETERINARY CORPS NATIONAL ARMY, 294; SANITARY CORPS, 940, and AMBULANCE SERVICE, 138, constitute the remainder of the commissioned personnel.

Board Organized to Standardize the Care of Remediable Defects

The following named officers have been constituted a board to standardize the management of soldiers with remediable defects and of those with defects not remediable which do not prevent the performance of some military duty; this is in accordance with the provisions of the regulations under the Selective Service Law: Cols. G. E. Bushnell, U. S. Army, retired; F. F. Russell, M. C., U. S. Army; W. H. Moncrief, M. C., N. A.; Lieuts.-Cols. T. L. Rhoads, M. C., U. S. Army; P. W. Huntington, M. C., U. S. Army; E. G. Brackett, M. C., N. A.; W. R. Parker, M. C., N. A.; W. T. Longcope, M. C., N. A., and P. Bailey, M. C., N. A.; Majors W. J. Mayo, M. R. C.; H. P. Mosher, M. R. C., W. H. G. Logan, M. R. C.; J. C. Bloodgood, M. R. C.; C. H. Mayo, M. R. C., and S. Harris, M. R. C.; Contract Surgs. F. R. Hagner and G. W. Wende, alternating. This board is in great part the same as that which prepared the "Manual of Instructions for Medical Advisory Boards." There were twelve men on the former board; there are seventeen on the present board.

Vacancies in the United States Public Health Service

Owing to greatly increased activities in the Public Health Service, there is urgent need of the services of medical officers for field duty in connection with the sanitation of numerous civil sanitary districts. The salaries of the positions in question vary from $1,800 to $2,500 per annum, depending on the qualifications and experience of the appointees. Men who have been disqualified physically for the Medical Reserve Corps are eligible for appointment, provided they are not suffering from complaints which will seriously inter-

fere with the performance of their duties. It is especially desired to secure the services of competent sanitarians and those who have had previous experience in health work. There are also numerous vacancies for sanitary engineers, scientific assistants, sanitary inspectors, and others. Applications for appointment to these vacancies should be made to the Surgeon-General, U. S. Public Health Service, Washington, D. C., and in order to avoid unnecessary correspondence should include complete data concerning age, nativity, experience and training, and other necessary information.

Navy Medical Notes

Surg.-Gen. William C. Braisted, U. S. Navy, is planning to have available the medical personnel and supplies which will be made necessary by the probable passage of legislation authorizing the addition of 50,000 enlisted men to the Navy and Marine Corps.

The new hospital ships *Mercy* and *Comfort*, accommodating 400 patients each, will soon be ready for active service. Surg. Charles M. Oman has been selected as commander of the *Comfort;* no commander has as yet been selected for the *Mercy*. These ships, together with the U. S. S. *Solace*, now in service, gives the Navy Department three hospital ships.

Med. Insp. J. A. Murphy, of the Surgeon-General's Office, spent several days last week studying the needs for hospital expansion at the Philadelphia Navy Yard.

Dr. William Seaman of the Navy has been promoted to be medical inspector and Dr. George B. Trible to be surgeon with the rank of lieutenant-commander.

The following promotions are also announced: Medical Inspector Charles P. Kindleberger to be a medical director with the rank of captain; medical inspectors to be medical directors with the rank of captain: Arthur W. Dunbar and Theodore W. Richards; surgeons to be medical inspectors with the rank of commander: Joseph C. Thompson, Karl Ohnesorg, Frederick W. S. Dean; in the same capacity for temporary service: Clarence F. Ely, Albert J. Geiger, Perceval S. Rossiter, Charles C. Grieve and John D. Manchester; passed assistant surgeons to be surgeons with the rank of lieutenant-commander: William H. Short, Herbert L. Kelley and Julian T. Miller.

Changes in Manual of Instructions for Medical Advisory Boards

The War Department has authorized a statement to the effect that through an inadvertence there appeared in the manual of instructions from the office of the Provost-Marshal-General, for medical advisory boards, the following paragraph, page 92:

> The foreign born, and especially Jews, are more apt to malinger than the native born.

The attention of the President and Acting Secretary of War having been called to it, the President under date of March 4, wrote the following letter to the Acting Secretary of War:

> I am very much distressed that the sentence quoted in the inclosed telegram should have been contained in the draft instructions to the medical advisory boards. They, of course, represent a view absolutely contrary to that of the administration, and express a prejudice which ought never to have been expressed or entertained. In all of this I am sure you will be kind enough to make an immediate excision of these sentences and instruct the medical advisory boards accordingly, letting it be known, if you will be kind enough, to the senders of the inclosed telegrams that you have done so.
>
> I am making this request with all the greater confidence because I am sure you will sympathize with my point of view in the matter.
>
> Cordially and sincerely yours, WOODROW WILSON.

Mr. Crowell, Acting Secretary of War in the absence of Secretary Baker, responded to the effect that an amendment of the paragraph has been submitted by the Surgeon-General and telegraphed to all the boards. A new reprint of the regulations will be distributed as soon as received from the Government Printing Office, and the edition already distributed is to be recalled and destroyed.

The new paragraph reads:

> CASES WHERE MALINGERING IS SUSPECTED
>
> Cases of malingering are to be detected by positive conclusions resulting from careful examination of claimed defects and ailments. Conclusions based on suspicion engendered by the circumstances or environment of the registrant may result in grave injustice. All suspected cases are to be subjected to such tests as are herein prescribed or to other tests that may be devised by the examiner. The statements of registrants concerning their physical condition should be patiently considered in the same manner applied to other statements affecting his liability to military service, and where fraud or deception is suspected, the statements should be subjected to careful cross-examination and considered in the light of all other evidence obtainable. If investigation of doubtful statements is desired the board may call upon the local authorities of the selective service system for investigation and report.

NEWS OF THE CANTONMENTS

MARCH 3, 1918.

Twenty-Eighth Division, Camp Hancock, Augusta, Ga.

Surgeons of the ambulance companies of the Twenty-Eighth Division have entered a course in dissection at the University of Georgia Medical School, Augusta.

Lieutenant Wadhams, M. C., of Maine, One Hundred and Ninth Field Artillery, is now acting assistant division surgeon in Lieut.-Col. William Crookston's office, and Major Dillinger is division sanitary inspector.

All men of the division will be required to exhibit their qualifications in first aid work.

Eighty-Fourth Division, Camp Zachary Taylor, Louisville, Ky.

MARCH 11, 1918.

ORGANIZATION CHANGES

Changes in the organization of Camp Zachary Taylor are being made. The camp is larger than the division, there being a number of organizations here which do not belong to the Eighty-Fourth Division, among them being the base hospital, Seventeenth Brigade of regulars, camp quartermaster department, school for cooks and bakers, and training school for officers. Major-Gen. Harry C. Hale being the senior officer is in command of the entire camp. The first intimation that two separate organizations were planned was the naming of Lieut.-Col. John H. Allen, former division surgeon, as camp surgeon; the naming of Lieut.-Col. William E. Smart as division surgeon, and detaching Major Luther Poust as division sanitary officer and naming him camp sanitary officer and assistant camp surgeon under Colonel Allen. Capt. Alfred M. Allen has been named as camp adjutant.

TENTS FOR MEDICAL OFFICERS

Tents, which have not been used since the First Kentucky Regiment left, will again be pitched to house medical officers detailed to the base hospital. Between 50 and 100 graduates from Army medical training schools are expected to report at the base hospital in the near future. Congested condition of the officers' quarters necessitates this action. Carpenters have begun the additions to the officers' quarters, but these will not be completed in time to receive the new arrivals.

A prisoners' ward is to be erected at the base hospital group at an estimated cost of $5,000. Sick soldiers who are military prisoners will be treated there.

Fifteen Red Cross nurses arrived at the hospital on the fifth instant.

Hospital Unit No. 40 has been mobilized at Camp Zachary Taylor. This unit is under the command of Major David Barrow of Lexington, who is chief surgeon, and Major McClymonds, chief internist. The enlisted personnel is under the command of Capt. Virgil Simpson, M. R. C., of Louisville.

INSPECTIONS

Inspections at the base hospital are part of the regular routine now. They occur several times a day by line officers and no one knows what phase the next one will take. General Hale, the commanding general, visited the hospital unexpectedly last week and questioned many men regarding their care, comfort and food. The result of all of this is to keep the medical officers in a turmoil all the time, they are literally "up on their toes" and in all departments there is a feeling of unrest which will undoubtedly be detrimental to the morale of the organization if this form of inspection is continued.

PERSONAL

The trial of Major Milton Board, M. R. C., before a special court martial under charges of violation of the eighty-fifth article of war, proceeds slowly. Only five of the many witnesses called had been examined on adjournment of the court on March 9. Much comment was caused by a ruling of Colonel Guthrie, president of the court, that reporters were

not to publish anything until the reports had been censored. The matter was laid before General Hale, division commander, who reversed Colonel Guthrie and allowed fullest publicity to the press reports of the trial.

DISEASE CONDITIONS AMONG TROOPS IN THE UNITED STATES

From Telegraphic Reports Received in the Office of the Surgeon-General for the Week Ending March 1, 1918

1. ANNUAL ADMISSION RATE PER 1,000 (DISEASE ONLY):
   - All Troops 1,372.2
   - National Guard Camps 1,101.7
   - National Army Camps 1,557.1
   - Regular Army 1,334.6
2. NONEFFECTIVE RATE PER 1,000 ON DAY OF REPORT:
   - All Troops 47.8
   - National Guard Camps 42.2
   - National Army Camps 54.5
   - Regular Army 42.9
3. ANNUAL DEATH RATE PER 1,000:
   - All Troops 6.6
   - National Guard Camps 6.4
   - National Army Camps 5.9
   - Regular Army 7.9

NEW CASES OF SPECIAL DISEASES REPORTED DURING THE WEEK ENDING MARCH 1, 1918

Camps	Pneumonia	Dysentery	Malaria	Venereal	Measles	Meningitis	Scarlet Fever	Deaths	Annual Admission Rate per 1,000 (Disease Only)	Noneffective per 1,000
Wadsworth	7	..	..	15	4	1	...	2	591.8	23.6
Hancock	6	..	..	23	10	6	3	2	432.2	26.9
McClellan	5	..	..	18	10	..	2	1	743.8	28.7
Sevier	...	..	2	22	2	..	1	3	1,670.1	70.0
Wheeler	9	1	3	45	2	..	...	6	1,360.6	46.6
Logan	8	..	..	70	32	..	2	2	1,127.2	34.6
Cody	30	..	..	7	...	1	...	2	634.8	37.5
Doniphan	14	..	1	8	...	..	3	8	1,772.2	47.6
Bowie	27	..	..	74	3	2	1	3	2,058.2	61.0
Sheridan	2	..	..	19	3	1	3	0	443.1	21.8
Shelby	2	..	1	29	...	..	...	2	1,252.0	54.2
Beauregard	26	..	2	16	...	2	...	7	1,318.1	55.4
Kearny	...	..	..	6	1	..	4	4	1,181.3	47.1
Devens	9	..	..	68	6	..	3	5	1,077.5	36.4
Upton	7	..	..	21	...	..	...	4	575.4	23.4
Dix	1	..	..	64	11	..	9	1	1,500.9	44.7
Meade	9	..	..	19	15	..	6	1	508.6	30.9
Lee	14	..	..	49	10	2	...	4	1,474.3	58.0
Jackson	5	..	..	29	7	..	4	4	1,794.0	71.4
Gordon	1	..	..	118	1	..	...	3	1,333.7	34.9
Sherman	10	..	..	31	35	..	27	3	1,934.7	61.8
Taylor	11	..	..	48	13	1	2	5	1,612.0	60.6
Custer	5	..	..	6	9	..	6	2	1,171.4	46.0
Grant	7	1	..	10	12	..	9	3	919.3	31.3
Pike	15	1	..	138	17	2	9	3	3,050.9	95.6
Dodge	8	..	..	111	54	1	11	2	1,577.3	54.4
Funston	7	..	..	58	...	3	2	3	2,081.7	97.3
Travis	33	1	..	66	26	..	...	8	3,081.8	72.3
Lewis	3	..	..	31	52	2	37	0	1,404.0	65.8
N. E. Department	...	..	..	13	1	..	...	0	984.8	31.9
Eastern Dept.	11	..	2	16	10	1	2	1	681.6	27.0
S. E. Department	4	1	..	29	13	1	6	5	1,456.7	46.7
Southern Dept.	22	1	..	85	84	3	4	11	1,111.8	43.2
Central Dept.	4	..	..	31	10	2	9	1	1,499.6	47.8
Western Dept.	12	..	..	39	42	..	8	7	986.5	31.5
Aviation, S. C.	41	..	3	125	146	3	29	19	1,680.8	44.9
Camp Greene	11	..	..	17	13	1	...	1	980.0	39.8
Camp Fremont	4	..	1	26	3	..	...	0	1,304.7	45.5
El Paso	...	..	..	5	3	..	...	0	847.1	4.6
Fort Slocum	1	..	..	12	4	..	1	2	1,762.2	39.2
Columbus Bks.	2	..	..	13	...	..	2	0	1,970.5	60.5
Fort Thomas	...	..	..	6	...	1	...	4	1,634.3	77.6
Jefferson Bks.	4	..	..	7	14	..	6	0	2,025.2	127.1
Fort Logan	5	..	..	2	7	..	3	0	2,249.3	74.9
Fort McDowell	...	..	..	2	6	..	1	0	1,698.6	52.0
D. B. Fort Leavenworth	...	..	..	1	...	..	...	0	1,368.4	30.5
D. B. Alcatraz	...	..	..	....	...	..	...	0	650.1	15.7
Aberdeen P. G.	...	..	..	....	1	..	...	0	2,451.0	54.0
Allentown, A.C.C.	7	..	..	1	2	..	...	0	1,516.6	33.2
Camp Humphreys	...	..	..	11	...	..	...	0	1,858.5	18.9
J. E. Johnston	1	..	..	25	17	..	1	0	913.3	32.0
Camp Meigs	2	..	..	11	7	..	1	0	2,648.6	35.5
Camp Merritt	17	..	..	20	5	..	37	4	1,526.4	62.2
Camp Stuart	19	..	..	9	8	1	1	5	1,754.1	53.7
West Point, N. Y.	...	..	..	....	19	..	...	0	1,052.0	20.2
N. G. Depts.	1	..	..	16	24	..	4	2		
N. A. Depts.	15	..	1	136	46	..	25	2		
Total	404	6	16	2,292	820	37	284	157	1,372.2	47.8

ANNUAL RATE PER 1,000 FOR SPECIAL DISEASES

	All Troops in U. S., Week Ending Mar. 1, 1918	Regulars in U. S., Week Ending Mar. 1, 1918	National Guard, All Camps, Week Ending Mar. 1, 1918	National Army, All Camps, Week Ending Mar. 1, 1918	Expeditionary Forces, Week Ending Feb. 21, 1918
Pneumonia	19.7	22.0	20.6	16.8	21.3
Dysentery	0.2	0.2	0.1	0.3	0.4
Malaria	0.5	0.8	1.3	0.0	0.4
Venereal	97.1	121.5	53.4	100.6	55.3
Paratyphoid	0.0	0.0	0.0	0.0	0.0
Typhoid	0.2	0.6	0.0	0.1	0.0
Measles	34.7	54.7	10.2	31.1	26.9
Meningitis	1.5	1.7	1.9	1.3	6.0
Scarlet fever	12.0	14.6	2.9	14.5	10.5

PROMOTIONS

Captains of the Medical Reserve Corps Recommended for Promotion as Majors, from Jan. 7-Feb. 10, 1918

JOS. W. BAUMAN, Lansdale, Pa.; SHADWORTH OLDHAM BEASLEY, San Francisco, Calif.; SIDNEY R. BURNAP, New York City; JOSEPH C. BREITLING, San Antonio, Tex.; CHAS. SUMNER CHRISTIE, Riverpoint, R. I.; EDGAR B. FRIEDENWALD, Baltimore, Md.; JOHN VINCENT LITTIG, Davenport, Ia.; JOHN HANCOCK McCLELLAN, Chicago; ELI B. MOSS, Chicago; GEO. ALLEY RENN, Norfolk, Va.; JAMES T. RUGH, Philadelphia, Pa.; FREDERICK WM. SHAW, Mt. Vernon, Mo.; EDWARD D. SINKS, Lima, Ohio; ROBERT L. I. SMITH, Pasadena Calif.; MARTIN J. SYNNOTT Montclair, N. J.; and DAYTON CARROLL WIGGIN, Rosebank, Staten Island.

First Lieutenants of the Medical Reserve Corps Recommended for Promotion as Majors, from Jan. 26-Feb. 2, 1918

WM. GRANVILLE BAIRD, Oak Hill, Okla.; ALFRED J. BROWN, New York City; and JAMES SPROAT GREEN, Elizabeth, N. J.

First Lieutenants of the Medical Reserve Corps Recommended for Promotion as Captains, from Dec. 10, 1917-Feb. 9, 1918

HERMAN E. ALBRECHT, Philadelphia, Pa.; GERHARD A. BADING, Milwaukee, Wis.; WM. E. BAXTER, Topsfield, Mass.; HENRY SMITH BARTHOLOMEW, New York City; IRA BENNETT BARTLE, North Bend, Ore.; ANTHONY H. BENNEWITZ, Cicero, Ill.; PIERRE BERGERON, Manchester, N. H.; THOMAS B. BIRD, New Orleans, La.; FREDERICK WALLACE BLACK, Punxsutawney, Pa.; WALTER PARKS BLISS, New York City; RUDOLPH BLOOM, Washington, D. C.; DAVID OLIVER BRIDGFORTH, Forrest City, Ark.; WALLACE L. BRITT, Jackson, Miss.; RALPH EARLE BRODIE, Albion, N. Y.; BAIRD U. BROOKS, W. Durham, N. C.; ALFRED JOSEPH BUKA, Pittsburgh, Pa.; HENRY EDGAR BUNCH, JR., Kennecott, Alaska; WM. JOHN BURDELL, Lugoff, S. C.; TULLIE VAN BOYD, E. St. Louis, Ill.; FREDERICK DEAN CARTWRIGHT, Bowling Green, Ky.; WM. EDWIN CHAPMAN, Leland, Ill.; GLENN LONG COAN, Wyandotte, Mich.; JAMES L .COBB, New York City; FRANK ALBERT DAVIS, Boston, Mass.; FREDERICK EARLE DIEMER, Hot Springs, Ark.; RICHARD B. DILLEHUNT, Portland, Ore.; ROLLAND B. DOIG, Schenectady, N. Y.; SAM WRIGHT DONALDSON, Maryville, Tenn.; RAFAEL GABRIEL DUFFICY, San Rafael, Calif.; DOYLE LEE EASTLAND, Waco, Texas; LANCELOT ELY, Somerville, N. J.; JESSE ETTELSON, New York City; MERTON ALMOND FARLOW, Melroy, Ind.; JESSE FRANKLIN GAMBLE, Houston, Texas; JULIAN E. GAMMON, Jacksonville, Fla.; EDGAR LORRINGTON GILCREEST, Gainesville, Texas; JOSEPH GIRSDANSKY, New York City; HUBERT GRIEGER, Englewood, Colo.; ORVILLE R. HAGEN, Patterson, N. J.; ARTHUR JOSEPH HALL, Washington, D. C.; CHARLES WESLEY HALL, Mt. Vernon, Ill.; WALTER E. HEMPSTEAD, Oregon City, Ore.; WALTER LOWNY HENDERSON, East McKeesport, Pa.; RALPH HENDRICKS, Spokane, Wash.; AUGUST G. HINRICHS, Pittston, Pa.; LOUIS HOUGH, Denver, Colo.; RAYMOND G. HUSSEY, Baltimore, Md.; SAMUEL JAFFE, Norristown, Pa.; JAMES CRAIK JANNEY, Boston, Mass.; CHAS. WORLEY JONES, Elma, Wash.; CLARENCE KENNETH JONES, Indianapolis, Ind.; MILTON B. KATZENSTEIN, Pittsburgh, Pa.; BENJAMIN W. KELLY, Aitkin, Minn.; JERE WILLIAMS KIRKPATRICK, Copenhagen, Tenn.; ROLLAN W. KRAFT, Ann Arbor, Mich.; E. GECONIA MAXWELL, Barden, Tenn.; EDWIN McKAY, Charleroi, Pa.; GEO. C. MILLER, Kansas City, Mo.; EVERETT HUMPHREY MORGAN, Gallipolis, Ohio; WM. ALEXANDER MORGAN, New York City; OTIS P. MORGANTHALER, Templeton, Iowa; HARRY THOS. MORTON, New York City; LEO C. MUNDY, Wilkes-Barre, Pa.; ARTHUR L. MUNGER, Sacramento, Calif.; WOODFIN GRADY PAGE, Dothan, Ala.; CHAS. B. PALMER, Phoenix, Ariz.; CHAS. ARTHUR PAUSON, San Francisco, Calif.; KENNETH ALLEN PHELPS, West Point, N. Y.; WM. SCOTT PIPER, Clearfield, Pa.; ROBERT B. PRATT, Bellefontaine, Ohio; ADDISON J. PROVOST, Oshkosh, Wis.; WM. ELKIN RAKEN, Philadelphia, Pa.; JAMES WM. ROBINSON, Pittsburgh, Pa.; ROY THOMAS RODAWAY, Chicago; BERTOLET PERRY ROSEN-

BERRY, Winona, Minn.; PAUL RICHARD EDDINS SHEPPARD, Terrell, Texas; CHAS. ANTHONY SQUIRES, Binghamton, N. Y.; WM. CLIFTON STIFF, Plymouth, Pa.; WAID JAMES STONE, San Rafael, Calif.; JEROME F. STRAUSS, Chicago; JOHN M. TRACY, Springfield, Mass.; CHAS. DAVID TREISTER, Cleveland, Ohio; DONALD V. TRUEBLOOD, Seattle, Wash.; JAMES F. WAGNER, Bristol, Pa.; THOMAS E. WALKER, Cleveland, Ohio; CHAS. LEONARD WEBER, Cairo, Ill.; B. F. WEEMS, Jr., New York City; ROY DELISLE WILSON, Houston, Texas; CARL H. WITHERELL, Augusta, Me., and CHAS. SIAS WRIGHT, Portland, Me.

ORDERS TO OFFICERS OF THE MEDICAL CORPS

To Camp Dix, Wrightstown, N. J., to make inspection and on completion *to his proper station,* Col. EDWARD L. MUNSON. As assistant to camp surgeon, from Camp Dix, Lieut. VAL EMILE MILTENBERGER.

To Camp Meade, Annapolis Junction, Md., to make inspection, and on completion *to his proper station,* Col. JOSEPH N. WHITE. For duty, from Fort Des Moines, Lieut.-Col. ERNEST G. BINGHAM. As assistant to camp surgeon, Major GUY L. QUALIS.

To Fort Oglethorpe to organize and inspect instruction in tuberculosis and cardiovascular examinations and on completion *to his proper station,* Col. GEORGE E. BUSHNELL; Lieut.-Col. WARFIELD T. LONGCOPE.

To New York City for duty and on completion *to his proper station,* from Philadelphia, Col. CARROLL D. BUCK. To make inspection of disinfecting plants and on completion *to his proper station,* Col. CLAUDE E. MORGAN. For investigation and on completion *to his proper station,* Lieut.-Col. EDWARD B. VEDDER.

To Camp Doniphan, Fort Sill, Okla., for temporary duty, from Camp Logan, Lieut.-Col. SAMUEL S. CREIGHTON.

To Camp Gordon, Atlanta, Ga., for temporary duty, from Camp Greene, Lieut.-Col. CONDON C. McCORMACK.

To Cape May, N. J., Ordnance Proving Grounds and Gas Shell Proving Ground, Aberdeen, Md., and *Ordnance Filling Station,* Edgewood, Md., for inspection and on completion *to his proper station,* Lieut.-Col. FRANK W. WEED.

To Fort Des Moines, Ia., as commanding officer of base hospital, from Camp Dodge, Lieut-Col. ALEXANDER T. COOPER.

To Army Medical School for duty, from Rockefeller Institute, Major CLARENCE L. COLE, Lieut. ROYAL K. STACEY.

To Camp Greenleaf, Fort Oglethorpe, Ga., Evacuation Hospital, for temporary duty, from Camp Greenleaf, Majors WILLIAM H. ALLEN, WILLIAM D. HERBERT.

To Camp Sherman, Chillicothe, Ohio, base hospital, from Fort Benjamin Harrison, Majors LEOPOLD MITCHELL, ALEXANDER W. WILLIAMS.

To Fort Riley, Evacuation Hospital, for temporary duty, from Fort Riley, Majors ROBERT H. DUENNER, SAMUEL J. TURNBULL.

To Hoboken, N. J., for duty, from Cape May, Major JAMES S. FOX.

To Garden City, L. I., N. Y., as sanitary inspector, from Camp Jackson, Capt. WILLIAM C. RIDDLE.

To Camp Lee, Petersburg, Va., for duty, from Fort Oglethorpe, Lieut. CLAY R. MURRAY.

To Fort Sam Houston, Texas, department laboratory, from Fort Bliss, Lieut. JAMES S. SIMMONS.

The following officers of the Medical Reserve Corps who have passed the preliminary examination for appointment in the Medical Corps of the Army will proceed *to the Army Medical School* for the required course of instruction: Lieuts. PHILIP H. CLARKE, JOHN E. DWYER, Jr., BOWERS H. GROWT, CARL FREUND, EARLE K. HALLOCK, MICHAEL G. HEALY, LELAND O. W. MOORE, LUTHER R. MOORE, LESTER A. SMITH, WILLARD H. WATEROUS, RALPH G. WILLY; from Camp Bowie, Lieut. ROBERT S. CUNNINGHAM; from Camp Dodge, Lieut. ARTHUR V. MURTHA; from Camp Greene, Lieut. FRANCIS E. WEATHERBY; from Camp Jackson, Lieut. FLOYD C. SHUGART; from Camp McClellan, Lieut. ROBERT G. FULLER; from Camp Sheridan, Lieut. CHARLES L. MAXWELL; from Fort Clark, Capt. W. AUDA V. CASH, Lieut. RAWLEY W. WARD; from Fort Riley, Lieut. LEO C. DONNELLY; from Fort Sam Houston, Lieut. DONALD H. PITTS; from New York City, Lieuts. CLAYTON L. McCOY, CHARLES W. PEABODY; from San Antonio, Lieut. JAMES J. FITZGERALD.

ORDERS TO OFFICERS OF THE MEDICAL RESERVE CORPS

Alabama

To Army Medical School for instruction, Lieut. JOSEPH W. SPEARING, Anniston.

To Boston, Mass., Boston City Hospital, for instruction, and on completion *to Camp Devens,* base hospital, from Fort Oglethorpe, Lieut. MILES A. WATKINS, Birmingham.

To Camp Greene, Charlotte, N. C., *Camp Wadsworth,* Spartanburg, S. C., *Camp Sevier,* Greenville, S. C., for inspecting the base hospitals, and on completion *to his proper station,* Major SEALE HARRIS, Birmingham.

To Camp MacArthur, Waco, Texas, for duty, from Camp Beauregard, Lieut. JAMES H. PHILLIPS, Dora.

To Camp Sherman, Chillicothe, Ohio, for duty, from Fort Oglethorpe, Lieut. HIRAM O. BARKER, Cardiff.

To Fort Bayard, New Mexico, for duty, from Camp Hancock, Lieut. ERNEST A. MOORE, Coatopa.

To Fort Oglethorpe for duty, from Fort Oglethorpe, Lieut. ERNEST C. HAGOOD, Springfield. For instruction, from duty as a private at Fort McPherson, Lieut. JOHN PRATHER, Seale.

Arizona

To Fort Riley for instruction, from Nogales, Ariz., Capt. CHARLES FORD, Nogales. For instruction, Lieut. JACOB PRITCHARD, Winslow.

Arkansas

To Camp Custer, Battle Creek, Mich., for duty, from Fort Riley, Lieut. LEE V. PARMLEY, Little Rock.

To Camp Doniphan, Fort Sill, Okla., for duty, from Fort Riley, Lieut. WILBUR R. HARWELL, Osceola.

To Fort Oglethorpe for instruction, Lieut. NEWMAN B. BURCH, Colt. Hospital train, from Fort Riley, Lieut. SHEROD A. DRENNEN, Rush.

To Fort Riley for instruction, Lieut. WILLIAM J. KING, Branch.

To their homes and honorably discharged on account of physical disability existing prior to entrance into the service, Lieuts. EDGAR L. LINDSEY, Fort Smith; MATTHEW A. BISSELL, Texarkana.

California

To Alcatraz, California, for temporary duty, from Camp Kearny, Lieut. FRED C. SHURTLEFF, Los Angeles.

To Army Medical School for instruction, Lieut. JOHN W. ROBINSON, Stockton.

To Camp Cody, Deming, N. M., *Camp Travis,* Fort Sam Houston, Texas, *Camp Beauregard,* Alexandria, La., for duty and on completion *to his proper station,* from Camp Kearny, Major PHILIP S. CHANCELLOR, Santa Barbara. *To Camp Cody,* base hospital, Lieut. GEORGE P. HALL, Sunnyvale.

To Camp Kearny, Linda Vista, Calif., base hospital, Capt. CLARENCE E. IDE, Los Angeles.

To Chicago, Ill., Northwestern University Dental School, for instruction, Capt. EMIL F. THOLEN, Los Angeles.

To Hoboken, N. J., for duty, Major CLARENUCE QUINAN, San Francisco.

To Los Angeles, Calif., for orthopedic instruction, Lieuts. FRANK J. BRESLIN, JAMES H. McLAUGHLIN, Los Angeles; RALPH M. SMITH, San Bernardino.

To report to the Commanding General, Southern Department, Fort Sam Houston, Texas, for duty, from San Antonio, Major FREDERICK P. GAY, Berkeley.

To San Francisco, Calif., for duty, from Camp Kearny, Capt. THOMAS J. ORBISON, Los Angeles.

To Western Department, San Francisco, Calif., for duty, Lieut. MEYER B. FRACTMAN, San Francisco.

To their homes and honorably discharged on account of physical disability existing prior to entrance into the service, Capt. JACK K. HANSON, Newman; Lieuts. HOWARD B. DIXON, Daly City; JOHN G. ABBOTT, Riverside.

Colorado

To Fort Riley for instruction, Lieut. SAMUEL B. McFARLAND, Longmont. Hospital train, from Fort Riley, Lieut. ARTHUR E. GILL, Sopris.

To Fort Sam Houston, Texas, for temporary duty, from St. Louis, Lieut. FRED F. STOCKING, Florista.

To Markleton, Pa., U. S. Army General Hospital, for duty, from Camp Joseph E. Johnston, Capt. PHILIP A. LOOMIS, Colorado Springs; from Camp Sheridan, Capt. HENRY W. HOAGLAND, Colorado Springs.

Connecticut

To Army Medical School for instruction, Lieut. HERBERT C. OELSCHLEGEL, Torrington.

To Belleville, Ill., Scott Field, Signal Corps Aviation School from Fort Riley, Lieut. EDWARD J. HOWLAND, Colchester.

To Camp Doniphan, Fort Sill, Okla., *Fort Riley, Camp Dodge,* Des Moines, Iowa, for duty and on completion *to his proper station,* from Camp Bowie, Major James C. GREENWAY, Greenwich.

To Camp Lee, Petersburg, Va., base hospital, Lieuts. SAMUEL J. CHERNAIK, New Britain; GEORGE A. LEONARD, Waterbury.

To Camp MacArthur, Waco, Texas, for duty, from Camp Meade, Capt. WILLIAM T. OWENS, Hartford.

To Camp Shelby, Hattiesburg, Miss., base hospital, Lieut. WILLIAM L. SHEAHAN, New Haven.

To Fort Oglethorpe, base hospital, from Army Medical School, Lieut. WILLIAM F. COLLINS, New Haven. For instruction, Lieuts. WILLIAM C. GAYLORD, Branford; JAMES A. HARTEN, FREDERICK H. HYNES, New Haven; from duty as a private at Camp Devens, Lieut. ABRAHAM B. GROSS, Hartford.

To San Antonio, Texas, Kelly Field, for duty, from Camp Travis, Lieut. ARTHUR F. McDONALD, Waterbury.

District of Columbia

To Camp Hancock, Augusta, Ga., base hospital, on completion of his instruction at the Rockefeller Institute, Lieut. EUGENE C. RICE, Jr., Washington.

To Camp Upton, L. I., N. Y., base hospital, on completion of his instruction at Rockefeller Institute, Lieut. JOHN J. O'LEARY, Washington.

To Fort Oglethorpe as instructor, from Fort Oglethorpe, Capt. HENRY C. DREW, Washington. For instruction, Capt. RODMAN H. WILLIAMS, Washington.

Florida

To Arcadia, Carlstrom Aviation Field, for temporary duty, from Aberdeen, Md., Lieut. HENRY P. BEVIS, Arcadia.

To Fort Benjamin Harrison, Ind., Hospital Train, from Fort Oglethorpe, Lieut. WALTER P. DICKINSON, Nichols.

To Fort Oglethorpe as instructor, from Fort Oglethorpe, Capts. JULIAN E. GAMMON, Jacksonville; for instruction, Capt. FRANK F. FERRIS, Tallahassee.

To Washington, D. C., Government Hospital for the Insane, for intensive training from Fort Oglethorpe, Lieut. JOSEPH P. SCHELL, Chipley.

Georgia

To Camp Greene, Charlotte, N. C., base hospital, Capt. WILLIAM W. CARNOG, Lavonia.

To Camp Hancock, Augusta, Ga., for duty, Lieut. ULDRICK McL. KIEFER, Savanah.

To Camp Meade, Annapolis Junction, Md., for duty, from Fort Oglethorpe, Lieut. SEARLE B. GILLESPIE, Willacoochee.

To Fort Oglethorpe, for instruction, from Allentown, Pa., Lieut. GORDON BURNS, Douglas. On completion of his instruction at Rockefeller Institute, Lieut. ROLAND L. BROOKS, Geneva.

To Hoboken, N. J., hospital train, Lieut. WILLIAM H. LYDAY, Hampton.

To Newport News, Va., for duty, from Fort Oglethorpe, Lieut. JAMES D. DELAMAR, West Point.

To New York City, Post-Graduate Medical School and Hospital, for instruction in urology and dermatology from Fort Oglethorpe, Capt. WALPOLE C. BREWER, Atlanta; Lieut. CHARLES J. WOODS, Darien.

To Pittsburgh, Pa., Carnegie Institute of Technology, for instruction in automobile maintenance and gas engine operation and on completion *to his proper station,* Lieut. LUCIUS K. PATTERSON, Cuthbert.

Resignation of Lieut. AUSTIN J. KEMP, Tifton, accepted.

Idaho

To Fort Oglethorpe for instruction, from Fort Caswell, N. C., Lieut. CLYDE E. WATSON, Nampa.

To Fort Riley, for instruction, Capt. JOSEPH ASPRAY, Moscow.

Illinois

To Army Medical School, Washington, D. C., for instruction, Lieuts. RICHARD W. DENEY, OLIVER R. SPALDING, SIDNEY N. TROCKEY, FRANK W. YOUNG, Chicago; FRANK E. SMITH, Decatur; HARLEY G. STANTON, East St. Louis; FLOYD E. BEST, Freeport; ERNEST C. ASBURY, O'Fallon; ERNEST J. WORTHINGTON, Olney; HOMER P. MacNAMARA, Springfield; ALAN G. BROOKS, Stoy.

To Belleville, Scott Field Signal Corps Aviation School, from Camp Custer, Capt. WILLIAM J. UPPENDAHL, Peoria.

To Boston, Mass., Boston City Hospital, for instruction, and on completion *to Fort Ethan Allen, Vt.,* for duty, from Fort Oglethorpe, Lieut. LOUIS C. SONDEL, Columbia.

To Camp Beauregard, Alexandria, La., base hospital, from Camp MacArthur, Capt. HARRY ROBESTEIN, Chicago.

To Camp Custer, Battle Creek, Mich., for duty, from Fort Riley, Lieuts. ABRAHAM L. DESSER, HARRY J. DWYER, HENRY C. JOHNSON, Chicago; Lieut. LEO V. GATES, Zeigler.

To Camp Dodge, Des Moines, Ia., base hospital, Lieuts. SAMUEL STEIN, ALBERT VANDERKLOOT, Chicago.

To Camp Doniphan, Fort Sill, Okla., for duty, from Fort Riley, Capt. OSCAR A. HANSEN, Lieut. CHARLES B. BROMBERG, Chicago. Base Hospital, Lieuts. JAMES E. HUNTER, Chicago; HOBART C. RUDDICK, Condoval; ROY D. SHORT, Melrose Park.

To Camp Gordon, Atlanta, Ga., Military School of Aeronautics, from Camp Gordon, Lieut. OTTO J. SCHOTT, Chicago.

To Camp John Wise, San Antonio, Texas, for duty, from Fort Riley, Lieut. CHARLES N. COEN, Cornell.

To Camp MacArthur, Waco, Texas, Aviation Mobilization Corps, from Camp Hancock, Lieuts. ALEXANDER A. DRILL, Chicago. For duty from Fort Riley, HARRY S. SOLOMON, Chicago.

To Camp Pike, Little Rock, Ark., base hospital, Lieut. VICTOR P. DIEDERICH, Chicago.

To Camp Sevier, Greenville, S. C., base hospital, Capt. JOSEPH C. FRIEDMAN, Chicago.

To Camp Shelby, Hattiesburg, Miss., *Camp Sheridan,* Montgomery, Ala., *Camp McClellan,* Anniston, Ala., for duty, and on completion *to his proper station,* from Camp Pike, Major ARTHUR SMALL, Chicago. Base hospital, Lieuts. WILLIAM V. GOODER, Marengo; JOHN W. MARTIN, Oliver.

To Camp Sheridan, Montgomery, Ala., base hospital, from Camp Sheridan, Capt. FORD C. WALSH, Rock Island.

To Camp Taylor, Louisville, Ky., base hospital, Lieuts. HYMAN W. BAU, RALPH WALDO CARPENTER, HARRY KATZ, MAX J. MINKER, MEYER S. PEDOTT, Chicago; FLORIAN G. OSTROWSKI, Cicero.

To Chicago, Northwestern University Dental School, for instruction, Lieuts. HARRY E. VANDER BOGART, SAMUEL C. FLEMING, Chicago.

To Danville, N. Y., for duty, from Fort Riley, Leiut. ALFRED T. EIDE, Chicago.

To Fort Benjamin Harrison, Ind., for duty, from Fort Benjamin Harrison, Capt. EUGENE A. MOULTON, Chicago.

To Fort Oglethorpe for instruction, Capt. JAMES H. WILLIAMSON, Danville; from Camp Grant, Capt. FRENCH S. CARY. For instruction, Lieuts. LEROY H. HARNER, CHARLES F. HARRIS, CLAYTON J. HYSLEP, REXIN P. JOHNSON, Chicago; GEORGE P. POWELL, Dixon; THOMAS K. BOWLES, Ludlow; CLARENCE E. FRYBARGER, Oak Park; from Key West Barracks, Florida, Lieut. EDWARD G. SEPPLE, Chicago.

To Fort Riley, Evacuation Hospital, from Fort Riley, Lieut. EDWARD MacDONALD, Chicago. Hospital train, from Fort Riley, Lieuts. ULYSSES S. GEIGER, Chicago; GEORGE O. DEMOSS, Cropsey; LAWRENCE J. BERNARD, East St. Louis; CLYDE J. CHAMNESS, Elkville.

To Fort Sam Houston, Texas, for duty, on completion of his instruction at New York City, Lieut. FREDERICK H. MAURER, Peoria.

To Fort Sill, Okla., Fort Field, for duty, from Camp Doniphan, Lieut. David R. Scott, Macomb.

To Newport News, Va., for duty, from St. Louis, Capt. ROBERT L. MORRIS, Decatur.

To New York City, Bellevue Hospital, for instruction, and on completion *to his proper station,* from Williamsbridge, Lieut. CHARLES S. PHALEN, Harvard.

To Rockefeller Institute for instruction in laboratory work, and on completion *to Army Medical School,* for duty, Lieut. CHARLES H. MANLOVE, Jr., Chicago.

To St. Paul, Minn., for duty, from Rantoul, Capt. OSCAR YARNELL, Decatur.

To Waco, Texas, Aviation Mobilization Camp, from Fort Riley, Lieuts. JOHN E. McGUIGGAN, Chicago; WILLIAM H. RYANS, Murphysboro; HARRY H. HANLEY, Peoria; JOHN J. WILKINSON, Springfield; GEORGE W. KIMBALL, Stewart.

Honorably discharged on account of physical disability existing prior to his entrance into the service, Lieut. FREDERICK H. FERGUSON, Chicago.

To his home and honorably discharged on account of physical disability existing prior to his entrance into the service, Lieut. JOHN H. FRANKLIN, Spring Valley.

Resignations of Lieut. WILLIAM THOMSON, Belknap; ORIN R. WAKEFIELD, Princeton, and H. A. ZINSER, Washington, accepted.

Indiana

To Army Medical School, Washington, D. C., for duty, from Rockefeller Institute, Capt. KARL C. EBERLY, Fort Wayne. For instruction, Lieuts. CHARLES E. MARTIN, Carlos; GEORGE C. TAYLOR, Claypool; ALBERT A. WATTS, Gary; DONALD L. MILLER, Indianapolis.

To Camp American University, Washington, D. C., as camp surgeon, from Camp American University, Capt. CLARENCE K. JONES, Indianapolis.

To Camp Logan, Houston, Texas, base hospital, from St. Louis, Lieut. WARREN D. CALVIN, Fort Wayne.

To Camp Meade, Annapolis Junction, Md., base hospital, from Camp Meade, Lieut. LOUIS A. BOLLING, Attica.

To Camp Sevier, Greenville, S. C., base hospital, Lieut. MELVIN S. TETERS, Middlebury.

To Fort Oglethorpe as commanding officer of hospital train, from Fort Oglethorpe, Lieut. IRVING H. WILLETT, Valparaiso.

To Fort Riley for instruction, from Fort Riley, Lieut. FRED G. EBERHARD, South Whitley.

To New Orleans, La., for instruction, and on completion *to his proper station,* from Camp Travis, Lieut. GEORGE L. MARSHALL, Bourbon.

To Newport News, Va., for duty, from Fort Oglethorpe, Lieut. HARRY B. GUDGEL, Princeton.

To San Francisco, Calif., for instruction and on completion *to Camp Kearny,* Linda Vista, Calif., base hospital, from South Bend, Wash., Lieut. ARLIE J. ULLRICH, Aurora.

Honorably discharged, Capt. CHARLES F. HOPE, Coatesville.

Resignations of Capts. WILLIAM R. PHILLIPS, Glenwood, CHARLES E. STONE, Shoals, accepted.

Iowa

To Army Medical School, Washington, D. C., for instruction Lieuts. EDWARD C. HENRY, Oil City; JAMES K. GUTHRIE, Rockwell.

To Camp Cody, Deming, N. M., base hospital, Lieut. DAN W. SHINE, Oelwein; Lieuts. FRANCIS J. HOMBACH, Council Bluffs; JAMES E. DYSON, Manilla; GEORGE E. HERMANCE, Marshalltown.

To Camp Custer, Battle Creek, Mich., for duty, from Fort Riley, Lieuts. GEORGE S. GILPIN, Des Moines; OLIVER E. McGREW, Grandview.

To Camp Dodge, Des Moines, Iowa, base hospital, Lieut. JAMES A. PORTER, Hedrick.

To Camp John Wise, San Antonio, Texas, for duty, from Fort Riley, Lieut. ERNEST D. COOK, Maquokata.

To Camp Sherman, Chillicothe, Ohio, base hospital, from Rockefeller Institute, Capt. GEORGE A. PLUMMER, Cresco.

To Chicago, Northwestern University Dental School, for instruction, Lieut. GEORGE R. NARRLEY, Keokuk.

To Danville, N. Y., for duty, from Fort Riley, Lieut. MILTON A. GIVEN, Des Moines.

To Fort Oglethorpe, for instruction, Capt. GEORGE R. HILL, Charter Oak; Lieuts. WILLIAM L. GRIFFIN, Charles City; JAMES E. EDGINGTON, Washington.

To Fort Riley, for instruction, Capt. PRINCE E. SAWYER, Sioux City.

Kansas

To Army Medical School, Washington, D. C., for instruction, Lieuts. CHARLES W. ROBINSON, Atchinson; ALBERT A. STOLL, Longton; EARL C. LIGHTFOOT, Mineral.

To Camp Doniphan, Fort Sill, Okla., for duty, from Fort Riley, Lieut. EDWARD K. LAWRENCE, Great Bend.

To Camp John Wise, San Antonio, Texas, for duty, from Fort Riley, Lieut. GUY H. WINSLOW, Grainsfield.

To Camp MacArthur, Waco, Texas, Aviation Mobiliatzion Camp, from Fort Riley, Lieut. DAVID E. KISECKER, Caldwell; Lieut. JOHN C. McKINNON, Caldwell.

To Chicago, Northwestern University Dental School, for instruction, and on completion *to Fort Riley*, for temporary duty, from Fort Riley, Capt. HARRY L. CHAMBERS, Lawrence.

To Fort Riley, for instruction, Lieut. EARL J. FORST, Wichita.

To New Haven, Conn., for duty, from Fort Riley, Capt. JOHN B. BRICKNELL, Americus.

To Newport News, Va., for duty, from Fort Logan H. Roots, Lieut. CLYDE M. ZINK, Wellington.

To Waco, Texas, Aviation Mobilization Camp, from Fort Riley, Lieut. GEORGE W. MATESON, Wichita.

To his home and honorably discharged on account of physical disability existing prior to his entrance into the service, Lieut. CLAUDE F. HAYES, Arlington.

Kentucky

To Army Medical School, Washington, D. C., for instruction, Capt. GRIFFIN C. KELLY, Louisville.

To Camp A. A. Humphreys, Accotink, Va., for duty, from Fort Oglethorpe, Lieut. EARLE E. SMITH, Fristoe.

To Camp Beauregard, Alexandria, La.; *Camp Pike*, Little Rock, Ark.; *Camp Bowie*, Fort Worth, Texas, and *Camp MacArthur*, Waco, Texas, for duty, and on completion *to his proper station*, from Camp Logan, Major JOHN H. BLACKBURN, Bowling Green.

To Camp Bowie, Fort Worth, Texas, base hospital, Capt. GEORGE H. DAY, Louisville.

To Camp Custer, Battle Creek, Mich., for duty, from Fort Riley, Lieut. ZACHARY M. ABSHEAR, Buckhorn.

To Camp Greene, Charlotte, N. C., base hospital, Lieut. ZEBULEN H. SCHULTZ, Utica.

To Camp Sevier, Greenville, S. C., base hospital, from Camp Sevier, Lieut. RICHARD R. SNOWDEN, Irvine.

To Fort Oglethorpe, for instruction, from Camp Meade, Capt. WALTER A. LACKEY, Paducah; from Camp Zachary Taylor, Capt. MARVIN S. NEAL, Daniel Boone. For instruction, Lieut. HENRY D. BERRYMAN, Eastwood.

To Pittsburgh, for instruction, and on completion *to Camp Dodge*, base hospital, Capt. WILLIAM S. LITTLE, Owensboro.

To their homes and honorably discharged, Lieuts. JOHN G. SIDDENS, Lucas; HOMER A. SUTTER, Newport. On account of physical disability existing prior to his entrance into the service, Lieut. HUGH L. McLEAN, Wilmore.

Resignations of Lieuts. HERMAN T. CARTER, Gilbertsville, and JOSEPH H. ALLEN, Langley, accepted.

Louisiana

To Camp A. A. Humphreys, Accotink, Va., for duty, from Rockefeller Institute, Lieut. CHARLES W. PHILLIPS, Lensburg.

To Camp Pike, Little Rock, Ark., as orthopedic surgeon, from Camp Pike, Lieut. EARL D. McCLEAN, Oskaloosa.

To Fort Oglethorpe, for instruction, Lieut. EWELL A. KLEINPETER, Thibodaux. Hospital train, from Fort Oglethorpe, Lieut. PHILIP H. NEVITT, Plain Dealing.

To Hoboken, N. J., for duty, from Fort Oglethorpe, Lieut. WINFIELD N. FLOYD, New Orleans.

To Rockefeller Institute, for instruction in laboratory work, and on completion *to Army Medical School* for duty, from Camp Logan, Lieut. EDWARD B. F. FAGET, New Orleans.

To Waco, Texas, Aviation Section, Signal Corps, Lieut. JOSEPH M. HOUNTHA, New Orleans.

To his home and honorably discharged, Lieut. WALTER C. MIDDLETON, Cravens.

Maine

To Army Medical School, for instruction, Lieuts. ALBERT G. KINNEY, Blue Hill; DANA F. CUMMINGS, Cherryfield.

To Camp Jackson, Columbia, S. C., base hospital, Major THOMAS J. BURRAGE, Portland.

To Camp Logan, Houston, Texas, as a member of a board to examine the command for nervous and mental diseases, from Camp Shelby, Capt. FRANK E. LESLIE, Andover.

To Camp Meade, Annapolis Junction, Md., for duty, from Fort Oglethorpe, Lieut. H. W. JOHNSON, Wytopitlock.

To Fort Oglethorpe, for instruction, Lieut. WALTER W. HENDEE, National Soldiers' Home. Hospital train, from Fort Oglethorpe, Lieut. HARRY L. KILGORE, Belfast.

Maryland

To Army Medical School, for instruction, Capt. JOSEPH W. COOK, JOHN G. MURRAY, Baltimore. For duty, Lieut. CHARLES A. LAUBACH, Baltimore.

To Camp Devens, Ayer, Mass., tuberculosis examining board, from Camp Upton, Lieut. SAMUEL NEWMAN, Baltimore.

To Camp Greene, Charlotte, N. C., base hospital, Lieut. BRYANT E. HARRELL, Baltimore.

To Camp Hancock, Augusta, Ga., base hospital, on completion of instruction at Rockefeller Institute, Lieut. VERNON S. WILKINSON, Aberdeen.

To Camp Meade, Annapolis Junction, Md., base hospital, from New York City, Lieut. AUSTIN H. WOOD, Baltimore.

To Camp Sheridan, Montgomery, Ala., base hospital, from Fort Oglethorpe, Lieut. LOUIS M. LIMBAUGH, Baltimore.

To Camp Sherman, Chillicothe, Ohio, for duty, from Fort Oglethorpe, Lieut. HUGH C. F. GILL, Baltimore.

To Fort McHenry, for duty, Capt. ARTHUR P. HERRING, Baltimore.

To Fort Oglethorpe for instruction, Lieut. JACK M. HUNDLEY, Jr., Baltimore. On completion to Army Medical School for duty, Lieut. CHARLES B. ENSER, Baltimore.

To New York City, Bellevue Hospital, for instruction, and on completion *to Camp Hancock*, Augusta, Ga., base hospital, Capt. JOHN G. MURRAY, Baltimore. Neurological Institute for instruction, Lieut. MICHAEL J. EGAN, Jr., Baltimore. Roosevelt Hospital, for instruction, and on completion to Camp Beauregard, base hospital, from Fort Oglethorpe, Lieut. HENRY H. STANSBURY, Baltimore.

Massachusetts

To Army Medical School for instruction, Lieuts. FREDERICK R. BARNES, Fall River; PERCY F. MILLER, Harwich; BURTON E. HAMILTON, West Roxbury.

To Boston, Mass., Aviation Section Signal Corps, Charitable Eye and Ear Infirmary, as officer in charge, from Boston, Lieut. WILLIAM J. HARKINS, Boston.

To Cambridge, Institute of Technology, for duty, from Boston, Lieut. EDWARD F. W. BARTOL, Milton.

To Camp A. A. Humphreys, for duty, from Fort Oglethorpe, Lieut. ANDREW F. SHEA, Lawrence.

To Camp Custer, Battle Creek, Mich., base hospital, from Fort Oglethorpe, Major WALTER R. WEISER, Springfield.

To Camp Devens, base hospital, Major FRANKLIN G. BALCH, Jamaica Plain.

To Camp Dix, Wrightstown, N. J., *Camp Meade*, Annapolis Junction, Md., and *Camp Lee*, Petersburg, Va., for duty and on completion *to his proper station*, from Camp Devens, Major HOMER GAGE, Worcester.

To Camp Greene, Charlotte, N. C., as sanitary inspector, from Camp Greene, Major WILLIAM J. McDONALD, Brookline. Base hospital, Major HARRY W. GOODALL, Boston.

To Camp MacArthur, Waco, Texas, Aviation Mobiliaztion Camp, for duty, from Camp Devens, Lieut. ALFRED J. BONNEVILLE, Hatfield.

To Camp Meade, Annapolis Junction, Md., for duty, from Fort Oglethorpe, Capt. FORREST F. PIKE, Melrose; Lieut. FRANK W. A. MITCHELL Lynn. Base hospital, from New York City, Lieut. EVERETT A. MERRILL, Lynn.

To Camp Sevier, Greenville, S. C., base hospital, Lieut. WARREN M. PETTENGILL, Boston.

To Camp Shelby, Hattiesburg, Miss., base hospital, Lieut. MANUEL F. CUNHA, Somerville; from Rockefeller Institute, Lieut. JOHN H. TAYLOR, Cambridge.

To Camp Sherman, Chillicothe, O., for duty, from Fort Oglethorpe, Lieut. HARRY H. SUMNER, Lowell.

To Fort Oglethorpe for instruction, Capt. GEORGE P. COGSWELL, Cambridge; Lieuts. EDWARD A. DUFFY, EN YOUNG KAU, Boston; LEO P. CRIMMIN, Brockton; EDWARD M. HODGKINS, Dorchester. Hospital train, from Fort Oglethorpe, Lieuts. CHARLES MOLINE, Sunderland; CHARLES W. DeWOLF, Tewksbury.

To Hoboken, New Jersey, for duty, from Fort Oglethorpe, Lieut. CLARENCE W. SEWALL, Boston; ALFRED M. LEMAY, Brockton.

To Houston, Texas, Signal Corps Aviation School, Ellington Field, from Boston, Lieut. JOHN G. JENNINGS, Boston.

To Newport News, Va., for duty, from Fort Logan H. Roots, Ark., Lieut. JOHNSTON L. CHERESKIN, Springfield; from New York City, Lieut. CLARENCE G. LANE, Woburn.

To New York City, Bellevue Hospital, for instruction, from Fort McHenry, Lieut. BERNARD A. GODVIN, Boston.

To Rochester, N. Y., Rochester General Hospital, from Camp Devens, Lieut. WILLIAM F. RYAN, Lowell.

To his home and the inactive list from Washington, D. C., Major SAMUEL J. MIXTER, Boston.

Resignation of Lieut. CHARLES H. DAVID, Hamilton, accepted.

Michigan

To Ann Arbor, Psychopathic Hospital, for intensive training, Lieut. WILLIAM D. MUELLER, Traverse City.

To Army Medical School, Washington, D. C., for instruction, Lieuts. HARRY F. DIBBLE, Detroit; HARRY J. DEFNET, VICTOR F. RYAN, Escanaba; MIAR J. McLAUGHLIN, Jackson; ALBERT E. CATHERWOOD, Middleton; RENE J. ST. LOUIS, Midland.

To Camp Custer, base hospital, from New York City, Lieut. DAUNE W. CRANKSHAW, Lawrence.

To Camp Dix, Wrightstown, N. J., *Camp Upton*, L. I., N. Y., *Camp Devens*, Ayer, Mass., for duty, and on completion *to his proper station*, from Camp Meade, Major NELLIS B. FOSTER, Ann Arbor.

To Camp Logan, Houston, Texas, for duty, from Fort Riley, Capt. NORMAN J. PIKE, Saginaw.

To Cape May, N. J., for temporary duty, from Camp Jackson, Capt. FREDERICK W. BAESLACK, Detroit.

To Fort Oglethorpe for instruction, Lieuts. HARTHAT L. KEIM, Ann Arbor; ROLAND E. TOMS, Grand Rapids; from Fort Caswell, Lieut. WM. A. O'BRIEN, Detroit.

To Fort Riley for instruction, Capt. CHARLES V. HIGH, Coleman; Lieut. WAYNE A. COCHRANE, East Lansing.

To Fort Sam Houston, Texas, for duty, from Camp Beauregard, Lieut. KENNETH F. MAXEY, Detroit.

To New York City, Bellevue Hospital, for instruction and on completion *to his proper station*, from Camp Lee, Capt. HUGH McD. BEEBE, Ann Arbor.

To Pittsburgh, Pa., Carnegie Institute of Technology, for instruction in automobile maintenance and gas engine operation and on completion *to his proper station*, Capt. GEO. S. FODEN, Highland Park.

Resignation of Lieut. LESTER F. KENNEDY, Detroit, accepted.

Minnesota

To Camp Dodge, Des Moines, Ia., as commanding officer of the base hospital, from Camp Dodge, Major FRANK C. TODD, Minneapolis.

To Camp MacArthur, Waco, Texas, for duty, from Camp Dodge, Lieut. WALTER N. LEE, Madison.

To Camp Meade, Annapolis Junction, Md., base hospital, from St. Louis, Capt. WILLIAM V. LINDSAY, Winona.

To Fort Riley, hospital train, from Fort Riley, Major EDWARD A. MEYERDING, St. Paul; Lieuts. HUGH H. SLOCUMB, Belgrade; OTTO J. SEIFERT, New Ulm; CLARENCE A. RATHBUN, Rice.

To Pittsburgh, Pa., Carnegie Institute of Technology, for instruction in automobile maintenance and gas engine operation and on completion *to his proper station,* from Fort Riley, Lieut. FRANK E. ELLISON, Monticello.

To St. Paul, Signal Corps Detachment, for duty, Lieuts. FRANK A. GRAWN, Duluth; PAL L. ASHLEY, Minneapolis; FRANCIS L. POWERS, Pipestone.

To his home and the inactive list, Major WILLIAM J. MAYO, Rochester.

To his home and honorably discharged on account of physical disability existing prior to his entrance into the service, Lieut. HENRY E. BINET, Coleraine.

Mississippi

To Fort Oglethorpe for instruction, Lieut. THOMAS M. KANE, Ja., Jackson.

To Fort Riley, Camp Pike, Little Rock, Ark., *Camp MacArthur,* Waco, Texas, *Camp Bowie,* Fort Worth, Texas, for duty, and on completion *to his proper station,* from Camp Doniphan, Major JOHN W. MARKSDALE, Winona.

Missouri

To Army Medical School, Washington, D. C., for instruction, Lieuts. BENJAMIN E. COBB, Lemons; CLAUDE L. SELLERS, St. Louis.

To Camp American University, Washington, D. C., as sanitary inspector, from Camp A. A. Humphreys, Accotink, Va., Capt. EDWARD S. SMITH, Macon.

To Camp Bowie, Fort Worth, Texas, for duty, from Camp Bowie, Lieut. ARTHUR C. F. BROWN, Kansas City.

To Camp Custer, Battle Creek, Mich., for duty, from Fort Riley, Lieuts. CARTER A. PROCTOR, Doniphan; HERMAN RAMMING, St. Louis; GEORGE A. NIEWEG, Vancleve.

To Camp Doniphan, Fort Sill, Okla., for duty, from Fort Riley, Lieut. WALTER L. BRANDON, Broseley.

To Camp Greene, Charlotte, N. C., base hospital, from Camp Greene, Capt. CHARLES H. HECKER, St. Louis. As divisional tuberculosis specialist, from Fort Oglethorpe, Lieut. ROBERT E. BYRNS, St. Louis.

To Camp MacArthur, Waco, Texas, Aviation Mobilization Camp, Lieut. CLARENCE J. LAWS, Princeton.

To Camp Meade, Annapolis Junction, Md., base hospital, from St. Louis, Mo., Lieut. JAMES B. BIGGS, Bowling Green.

To Camp Pike, Little Rock, Ark., base hospital, from St. Louis, Lieut. EDWIN D. EDWARDS, St. Louis.

To Camp Travis, Fort Sam Houston, Texas, *Camp Logan,* Houston, Texas, *Camp Beauregard,* Alexandria, La., for duty, and on completion *to his proper station,* from Camp MacArthur, Major OLIVER H. CAMPBELL, St. Louis.

To Chicago, Ill., Camp Grant, Rockford, Ill., *St. Louis, Mo., Camp Sherman,* Chillicothe, Ohio, for investigation, and on completion *to his proper station,* Major FREDERICK W. BAILEY, St. Louis. Northwestern University Dental School, for instruction, Capt. JOHN F. HASSIG, Lieuts. FRANK H. BACH, LOT D. MABIE, Kansas City.

To Fort Leavenworth, for duty, Lieut. ARLESS A. BLAIR, St. Louis.

To Fort McPherson, Ga., base hospital, from Army Medical School, Lieut. BERNARD J. McMAHON, St. Louis.

To Fort Riley for instruction, Capts. BENJAMIN R. McALLASTER, Carthage; CLIFTON R. DUDLEY, St. Louis; Lieuts. ALLEN G. SCOTT, Cardwell; JOSEPH L. BUTTON, QUITMAN U. NEWELL, St. Louis.

To Lonoke, Ark., Signal Corps, Aviation School, Eberts Field, Lieut. ALFRED L. WESSLING, Martinsville.

To New York City, Neurological Institute, for intensive training, from Camp Stuart, Capt. MARC R. HUGHES, St. Louis.

To Pittsburgh, Pa., Carnegie Institute of Technology, for instruction in automobile maintenance and gas engine operation, and on completion *to his proper station,* from Fort Riley, Lieut. CLAY E. MULLINAX, Princeton. For instruction, and on completion *to Camp Taylor,* base hospital, Lieut. HERMAN A. LAFORCE, Jasper.

To Rockefeller Institute for instruction in laboratory work, and on completion *to Army Medical School* for duty, from Fort Riley, Lieut. FRED S. PERRINGS, St. Louis.

Montana

To Camp Custer, Battle Creek, Mich., for duty, from Fort Riley, Lieut. HOMER J. FLINN, Butte.

To Fort Riley, hospital train, from Fort Riley, Major ROBERT E. HATHAWAY, Glendive. For instruction Capt. SAMUEL G. ARNOLD, Billings; Lieut. RALPH G. NELSON, Cut Bank.

To Fort Sam Houston, Texas, base hospital, from San Antonio, Lieut. GEORGE J. JUCKEM, Big Sandy.

To Pittsburgh, Pa., for instruction, and on completion *to Camp Taylor,* base hospital, from Fort Riley, Lieut. HAROLD SCHWARTZ, Butte.

Nebraska

To Camp Joseph E. Johnston, Jacksonville, Fla., base hospital, from Camp Joseph E. Johnston, Lieut. JOHN F. ALLEN, Omaha.

To Camp Sevier, Greenville, S. C., for duty, from Camp Doniphan, Lieut. MARION T. SIGLER, Pickrell.

To Camp Shelby, Hattiesburg, Miss., base hospital, Capt. JOHN C. MOORE, Omaha.

To Fort Oglethorpe as instructor, from Fort Oglethorpe, Capt. WILLIAM N. ANDERSON, Omaha.

To Fort Riley for instruction, Lieuts. WILEY S. COZART, EDWARD R. SWEENEY, Filley; from duty as a private at Fort Riley, Lieuts. HARRY J. PITTOCK, Ingleside; FRANCIS P. MURPHY, Omaha. Hospital train, from Fort Riley, Lieut. CHARLES W. W. HARMS, Omaha.

To Waco, Texas, Aviation Mobilization Camp, for duty, from Fort Riley, Lieut. CHARLES L. HOUSEL, Ansbury.

Nevada

To Army Medical School for instruction, Lieut. CLIFFORD ASHBY, East Ely.

New Hampshire

To Boston, Mass., Boston City Hospital, for instruction, and on completion *to Camp Jackson,* base hospital, Lieut. PHILIAS A. PION, Concord. On completion *to Fort Slocum,* New York, for duty, from Fort Oglethorpe, Lieut. PHILIP McQUESTON, Nashua.

To Camp American University, Washington, D. C., as assistant to the camp surgeon, from Fort Oglethorpe, Lieut. EDWARD C. DURGIN, East Andover.

Resignation of Capt. WILLIAM N. SOUTER, Fort Constitution, accepted.

New Jersey

To Army Medical School for instruction, Lieut. DAVID C. THOMPSON, Bloomfield.

To Boston, Mass., Boston City Hospital, for instruction, and on completion *to Camp Dix,* base hospital, from Fort Oglethorpe, Lieut. LYMAN B. HOLLINGSHEAD, Pemberton.

To Camp Dix, Wrightstown, base hospital, from New York City, Lieut. CHARLES RICH, Newark.

To Camp Gordon, Atlanta, Georgia, base hospital, from Camp Jackson, Lieut. LEO E. FROMESSES, Elizabeth.

To Camp Wheeler, Macon, Ga., base hospital, from New York City, Lieut. EDWARD GUION, Atlantic City.

To Fort Oglethorpe, for instruction, Lieuts. LEONARD M. KALAHER, Jersey City; VANE B. SIGLER, Trenton. Hospital train, Lieut. EDWARD P. ESSERTIER, Hackensack.

To Newport News, Va., for duty, from New York City, Lieut. SAMUEL ROTHENBERG, Newark.

To Rockefeller Institute for instruction in laboratory work, and on completion *to Army Medical School,* Lieut. HALVOR L. HARLEY, Pleasantville.

To their homes and honorably discharged, Lieut. LESTER H. SPARKS, Lakewood; Lieut. JAMES F. WALLIS, Pleasantville.

New Mexico

To Fort Riley for instruction, from Fort Logan, Major WILLIAM P MILLS, East Las Vegas.

To San Francisco, Calif., Letterman General Hospital, for duty, from Camp Lewis, Capt. DAVID C. TWICHELL, Albuquerque.

New York

To Army Medical School, Washington, D. C., for orthopedic instruction, from Williamsbridge, N. Y., Capt. JAMES C. DAVIS, Rochester. For instruction, Lieuts. JOHN D. EVERLOF, New York City; FRANK K. RYAN, Plattsburgh; HENRY M. MITCHELL, Yorkville. For orthopedic instruction, Lieut. RAEBURN J. WHARTON, Brooklyn. For duty, from Rockefeller Institute, Lieut. RAY S. NELSON, New York City.

To Belleville, Ill., Scott Field Signal Corps, Aviation School for duty, from Buffalo, Lieut. EDWARD F. MEISTER, Buffalo.

To Boston, Mass., Boston City Hospital, for instruction, and on completion *to Camp Upton,* base hospital, from Fort Oglethorpe, Capt. FREDERIC N. WILSON, New York City.

To Camp Beauregard, Alexandria, La., as orthopedic surgeon, from New York City, Lieut. JESSE R. PRICHARD, New York City.

To Camp Dix, Wrightstown, N. J., as cardiovascular examiner with the tuberculosis board, from Camp Meade, Capt. CHARLES G. O'CONNOR, Brooklyn. Base hospital, Capt. ALEXANDER L. ANDERSON, Brooklyn.

To Camp Gordon, Atlanta, Ga., *Camp McClellan,* Anniston, Ala., and *Camp Pike,* Little Rock, Ark., for duty, and on completion *to his proper station,* from Camp Zachary Taylor, Major JUNIUS N. McHENRY, New York City. As assistant to the camp surgeon, from Fort Oglethorpe, Major EDWARD A. SOUTHALL, Buffalo. As division psychiatrist, from Camp Bowie, Capt. JOHN J. HUGHES, New York City.

To Camp Greene, Charlotte, N. C., base hospital, Capt. FREDERICK M. IVES, New York City; from Camp Pike, Capt. MYRON L. MORRIS, New York City.

To Camp Hancock, Augusta, Ga., for duty, from Memphis Tenn., Lieut. RICHARD P. DOODY, Cohoes.

To Camp Lee, Petersburg, Va., for investigation in connection with the treatment of meningitis carriers, and on completion *to his proper station,* Major EDWARD K. DUNHAM, New York City. To examine the command for nervous and mental diseases, from Neurological Institute, Lieut. BERTRAM BROWN, Brooklyn.

To Camp Logan, Houston, Texas, as divisional tuberculosis specialist from Fort Oglethorpe, Capt. JAMES P. HUNT, New York City. As a member of a board to examine the command for nervous and mental diseases, from Camp Doniphan, Lieut. WARD W. MILLIAS, Rome.

To Camp MacArthur, Waco, Texas, for duty, from Camp Cody, Lieut. SAMUEL ROTH, Blackwell's Island.

To Camp McClellan, Anniston, Ala., base hospital, from Camp McClellan, Lieut. JOHNSTON MACLEOD, Flushing.

To Camp Pike, Little Rock, Ark., as a member of the tuberculosis examining board, from Fort Oglethorpe, Lieut. FELIX GRABOFF, New York City.

To Camp Shelby, Hattiesburg, Miss., as orthopedic surgeon, from Boston, Lieut. RAYMOND B. MORRIS, Olean.

To Camp Sheridan, Montgomery, Ala., base hospital, on completion of his instruction at Rockefeller Institute, Lieut. HAROLD L. MEIERHOF, New York City.

To Camp Sherman, Chillicothe, Ohio, for duty, from Fort Oglethorpe, Lieuts. BERNATH WEISS, Brooklyn; JOSEPH SUBKIS, New York City.

To Camp Upton, Long Island, as orthopedic surgeon, from New York City, Lieut. WALTER H. McSHANE, Troy.

To Fort Oglethorpe, as instructor, from Fort Oglethorpe, Capt. JAMES W. PRICE, Saranac Lake. For instruction, from Fort Caswell, Capt. JOSEPH P. O'BRIEN, Albany; from Key West Barracks, Florida, Capt. MAXWELL K. WILLOUGHBY, Auburn; STANMORE L. CASH, New York City. For instruction, Lieuts. BYRON E. CHAPMAN, Broadalbin; JOHN D. COLSON, LOUIS F. CRASSON, HENRY J. FEASTER, DAVID D. KRUPP, WILLIAM J. PUDNEY, JOSEPH B. STENBUCK, Brooklyn; EARL C. HOLDEN, Canastota; DAVID DAVIDSON, Good Ground; ARNOLD M. GOODHART, RAYMOND T. POTTER, New York City; WILLIAM P. SWEENY, Saratoga Springs. Hospital train, from Fort Oglethorpe, Lieuts. ROBERT S. FAMILTON, JACOB N. FEINBERG, New York City; ENRICO C. SOLDINI, Stapleton.

To Fort Riley, hospital train, from Fort Riley, Lieut. ANDREW J. GOODWIN, Ithaca.

To Fort Sam Houston, Texas, for duty, from Camp Beauregard, Lieut. ROBERT L. LEVY, New York City.

To Fort Sheridan, Ill., for investigation in connection with the prevention of meningitis, and on completion *to his proper station,* Major GEORGE DRAPER, New York City, from Rockefeller Institute, Major SIMON FLEXNER, New York City.

To Fairfield, Ohio, Wilbur Wright Field, Signal Corps, Aviation School for duty, from Dayton, Ohio, Lieut. MILTON H. GOLDBERG, Buffalo.

To Mineola, Long Island, Hazelhurst Field, Signal Corps, Aviation School, for duty, from Army Medical School, Lieut. JAMES P. FITZGERALD, Clayton.

To Newport News, Va., for duty, from Fort Logan H. Roots, Ark., Lieut. GEORGE D. UBEL, Salamanca; from New York City, Lieut. THOMAS P. BURRUS, Brooklyn.

To New York City, for inspecting classes of instruction, and on completion *to his proper station,* Major RAYMOND P. SULLIVAN, Brooklyn. Bellevue Hospital for instruction and on completion *to Brooklyn* for duty, Lieuts. KURTHA P. BLABER, Brooklyn. Neurological Institute for intentive training, from Camp Dix, Lieut. LEON M. WILBOR, Jasper. Post-Graduate Medical School and Hospital, for instruction in urology and dermatology, Lieut. DAVID E. KREMAN, New York City; from Camp Hancock, Lieut. WALTER L. WEEDEN, Clifton Springs. Roosevelt Hospital for instruction, Lieut. GEORGE R. HORTON, Brooklyn. Roosevelt Hospital for instruction, and on completion *to Camp Grant,* base hospital, from Fort Oglethorpe, Lieut. GEORGE B. PACE, New York City.

To Philadelphia, Pa., University Hospital, for instruction and on completion *to Camp Dix,* Wrightstown, New Jersey, base hospital, from Camp Upton, Capt. HARRY P. MENCKEN, Long Island, N. Y.

To report to the Surgeon-General for duty in his office, from Army Medical School, Lieut. JOHN P. SHARP, Niagara Falls.

To Rochester, N. Y., Rochester General Hospital, for duty, from Camp Jackson, Capt. ALEXANDER S. SIM, Brooklyn.

To Rockefeller Institute for instruction, and on completion *to Fort McPherson,* for temporary duty, from New York City, Major EDWARD W. PINKHAM, New York City. On completion *to Army Medical School,* for duty, from Fort Oglethorpe, Lieut. JOSEPH D. ROSENTHAL, Brooklyn.

To his home and honorably discharged Capt. MAURICE A. STURM, New York City.

Resignations of Capt. JOHN R. LE COMTE, New York City; Lieuts. BENJAMIN E. HELPRIN, Brooklyn, and VICTOR A. TYRASINSKI, Tonawanda, accepted.

North Carolina

To Boston, Mass., Boston City Hospital, for instruction and on completion *to Hoboken, N. J.,* Lieut. BURNICE E. MORGAN, Stocksville.

To Camp Greene, Charlotte, N. C., base hospital, Lieut. HENRY W. TIDMARSH, Bethel.

To Fort Oglethorpe for instruction, Lieut. LOUIS G. BEALL, Asheville.

To Hoboken, N. J., for duty, from Fort Oglethorpe, Lieut. RACK F. BENTHALL, Ahoskie.

To his home and honorably discharged on account of physical disability existing prior to his entrance into the service, Lieut. BENJAMIN G. ALLEN, Henderson.

North Dakota

To Camp Doniphan, Fort Sill, Oklahoma, for duty, from Fort Riley, Lieuts. GEORGE MONTEITH, Hazleton; BANJAMIN FRANKSON, Rugby.

To Camp McClellan, Anniston, Ala., base hospital, from Camp McClellan, Lieut. HOWARD L. SAYLOR, Cogswell.

To Chicago, Ill., Northwestern University Dental School, for instruction, and on completion *to his proper station,* from Camp Dodge, Lieut. ALOYSIUS P. NACHTWEY, Dickinson.

To Fort Leavenworth, Kan., for duty, from Fort Riley, Lieut. FRED E. REDMAN, Mott.

To Hoboken, N. J., hospital train, from Fort Riley, Capt. ORVILLE B. MELAND, Grand Forks.

To Newport News, Va., for duty, from New York City, Lieut. WILLIAM H. GOLDSTEIN, Kearny.

Ohio

To Army Medical School, Washington, D. C., for instruction, Lieut. EDWARD C. GOLDCAMP, Ironton.

To Boston, Mass., Boston City hospital, for instruction, and on completion to Fort Slocum, N. Y., for duty, from Fort Oglethorpe, Lieut. JOHN D. KESSLER, Columbus.

To Camp Custer, Battle Creek, Mich., *Camp Grant,* Rockford, Ill., and *Camp Zachary Taylor,* Louisville, Ky., for duty, and on completion *to his proper station,* Major ALFRED FRIEDLANDER, Cincinnati.

To Camp Grant, Rockford, Ill., base hospital, from St. Louis, Capt. CLAREN E. PFEIFER, Columbus; Lieut. ARTHUR R. KNAUF, Cincinnati.

To Camp Greene, Charlotte, N. C., base hospital, Lieut. STANLEY L. ALLEN, Zanesville.

To Camp Lee, Petersburg, Va., as assistant to the camp surgeon, from Fort Oglethorpe, Capt. RUFUS SOUTHWORTH, Glendale.

To Camp MacArthur, Waco, Texas, for duty, from Camp Sevier, Lieut. ARTHUR W. CARLEY, Dayton.

To Camp Shelby, Hattiesburg, Miss., base hospital, from Rockefeller Institute, Lieut. JAMES H. WARREN, Columbus.

To Fort McPherson, Ga., for duty, from Fort Oglethorpe, Lieut. WILLIAM S. NICHOLS, Cleveland.

To Fort Oglethorpe for instruction, Capt. HARRY S. NOBLE, St. Mary's; Lieuts. EARL C. WOOD, Columbus; SILAS W. SAXTON, Steubenville; ARTHUR N. SMITH, Upper Sandusky. Hospital train, from Fort Oglethorpe, Lieut. CHALLIS H. DAWSON, Portsmouth.

To Fort Riley, Evacuation Hospital, from Fort Riley, Lieut. A. H. HIXSON, Johnstown.

To Fairfield, Signal Corps Aviation school, Wilbur Wright Field, for duty, from Dayton, Lieuts. JAMES W. ALLBRITAIN, KENNETH A. CLOUSE, Columbus.

To Newport News, Va., for duty, from New York City, Lieut. LAWRENCE D. MILLER, Toledo; from St. Louis, Lieut. EDWARD J. BRAUN, Youngstown.

To New York City, Roosevelt Hospital, for instruction, and on completion *to Camp Custer,* base hospital, from Fort Oglethorpe, Lieut. FREDERICK T. MILES, Salem.

To Rockefeller Institute for instruction in laboratory work, Lieut. JAMES R. DAVIS, Painesville.

To Southern Department for assignment to duty, from Fort Sill, Major ROBERT CONARD, Blanchester.

To Walter Reed General Hospital, Takoma Park, D. C., for temporary duty, from Army Medical School, Capt. CARROLL L. STOREY, Oberlin.

Oklahoma

To Boston, Mass., Boston City Hospital, for instruction, and on completion *to Camp Devens,* base hospital, from Fort Oglethorpe, Lieut. THOMAS M. TOLER, Wirt.

To Camp Beauregard, Alexandria, La., as orthopedic surgeon in the camp, from Camp MacArthur, Capt. LEONARD S. WILLOUR, McAllester.

To Camp Pike, Little Rock, Ark. base hospital, from St. Louis, Lieuts. JAMES C. HAWKINS, Blackwell; CLAUDE E. PUTNAM, Oklahoma City.

To Fort Riley for instruction, Lieuts. FRANK G. FRANCISCO, Enid; PHILIP F. HEROD, El Reno.

Oregon

To Camp Lewis, American Lake, Wash., for duty, from Camp Lewis, Lieut. WILL H. POTTER, Scio.

To Camp Taylor, Louisville, Ky., as assistant to the camp surgeon from Fort Riley, Capt. DAVID N. ROBERG, Portland.

To Chicago, Ill., Northwestern University Dental School, for instruction, Lieut. GARRETT L. HYNSON, Portland.

To Fort Riley, for instruction, Lieut. FRANK E. BUTLER, Hot Lake.

To Washington, D. C., Army Medical Museum, and on completion *to his proper station,* from Philadelphia, Capt. LAWRENCE SELLING, Portland.

Pennsylvania

To Ann Arbor, Mich., Psychopathic Hospital, for intensive training, Lieut. WILLIAM W. McC. MILLS, Duquesne.

To Army Medical School, Washington, D. C., for instruction Lieut. HOMER LER. HILL, Johnstown.

To Boston, Mass., Boston City Hospital, for instruction, and on completion to Camp Lee, base hospital, from Fort Oglethorpe, Lieut. FRANK G. SCHARMANN, Johnstown.

To Camp American University, Washington, D. C., as assistant to the camp surgeon, from Washington, D. C., Lieut. LEON C. DARRAH, Reading.

To Camp Beauregard, Alexandria, La., as divisional tuberculosis specialist, from Fort Oglethorpe, Lieut. WILLIAM C. SPALDING, Cresson.

To Camp Dix, Wrightstown, N. J., as cardiovascular examiner with the tuberculosis board, Lieut. ALVIN S. SIEGEL, Philadelphia. For

duty, from Fort Oglethorpe, Lieuts. SAMUEL A. KAMERER, Ellsworth; ABRAHAM E. COLCHER, Philadelphia.

To Camp Gordon, Atlanta, Ga., *Camp Hancock,* Augusta, Ga., *Camp Sevier,* Greenville, S. C., for duty, and on completion *to his proper station,* Major JOSEPH SAILER, Philadelphia.

To Camp Greene, Charlotte, N. C., *Camp Wadsworth,* Spartanburg, S. C., *Camp Jackson,* Columbia, S. C., for duty, and on completion *to his proper station,* Major LAWRENCE LITCHFIELD, Pittsburgh. Base hospital, Capts. JAMES S. MOSHER, Hillsgrove; ROBERT WATT, Philadelphia; Lieut. CHARLES B. SHORTLIDGE, Lima.

To Camp Jackson, Columbia, S. C., *Camp Sevier,* Greenville, S. C., *Camp Wadsworth,* Spartanburg, S. C., and *Camp Gordon,* Atlanta, Ga., for duty, and on completion *to his proper station,* from Camp Greene, Major JONATHON M. WAINWRIGHT, Scranton.

To Camp Meade, Annapolis Junction, Md., for duty, from Fort Oglethorpe, Lieuts. CLARENCE D. DANIELS, MARSHALL B. MORGAN, Jr., Philadelphia.

To Camp Pike, Little Rock, Ark., base hospital, on completion of his instruction at Rockefeller Institute, Lieut. GEORGE R. LACY, Pittsburgh.

To Camp Sherman, Chillicothe, Ohio, for duty, from Fort Oglethorpe, Lieut. JAMES G. MATTERNES, Sinking Spring.

To Camp Upton, Long Island, N. Y., base hospital, Lieut. FRANK G. UNGERMAN, McKeesport.

To Cape May, N. J., for temporary duty, from Philadelphia, Lieut. LYNDON H. LANDON, Pittsburgh.

To Chicago, Ill., Northwestern University Dental School, for instruction, from Fort Oglethorpe, Lieut. JAMES F. TRIMBLE, Jeannette.

To Fort Oglethorpe for instruction, from Fort Oglethorpe, Capt. ROBERT A. KEILTY, Philadelphia. For instruction, Lieuts. CHARLES A. GOBLE, Jeannette; DAVID D. REYNOLDS, Kennett Square; LEWIS M. SCHULTZ, Minersille; EDGAR B. SLOTERBECK, Monessen; JOHN J. SOSNOWSKI, Pittsburgh; from Allentown, Lieut. EDWIN S. POTTER, Ardmore. Base hospital, from Fort Oglethorpe, Lieut. RANDALL ZIMMERMAN, Wilmerding. Hospital train, from Fort Oglethorpe, Lieut. DAVID E. GRIFFITHS, Scottdale.

To Fort Sam Houston, Southern Department, for duty, Lieut. CHARLES W. McCLURE, South Bethlehem.

To Hoboken, N. J., for duty, from Fort Oglethorpe, Lieuts. LOUIS J. GOLDBLATT, McKeesport; ISRAEL SPIERS, Philadelphia.

To Newport News, Va., for duty, from Army Medical School, Lieut. GEORGE W. MELLON, Woodlawn; from Fort Oglethorpe, Lieuts. FRANKLIN W. MATHEWSON, Oakdale; CLARE H. HANLEY, Scranton; from New York City, Lieuts. DAVID P. McCUNE, Jr., McKeesport; JOSEPH M. KENWORTHY, Philadelphia; EDWARD A. STEINHILBER, West Philadelphia.

To New York City, Neurological Institute, for intensive training, Lieut. HORACE L. CARNCROSS, Philadelphia. Roosevelt Hospital for instruction, and on completion *to Camp Grant,* Rockford, Ill., base hospital, from Fort Oglethorpe, Lieut. EUGENE C. MURPHY, Philadelphia; on completion *to Fort Jay, N. Y.,* for duty, Lieut. EUGENE B. SHARP, Johnsonburg; on completion *to Hoboken, N. J.,* base hospital, from Fort Oglethorpe, Lieut. ADAM G. HEILMAN, Lebanon; on completion *to Newport News* base hospital, from Fort Oglethorpe, Lieut. CLAUDE A. ROBB, Butler.

To Philadelphia, University of Pennsylvania, for duty, Major JOHN B. CARNETT, Philadelphia. Evans Dental Institute, for instruction, from Camp Gordon, Lieut. JOHN W. BRANSFIELD, Philadelphia. Jefferson Medical School, for duty, Lieuts. HENRY K. MOHLER, Philadelphia; HARRY W. BAILY, Tamoqua.

To Rockefeller Institute for instruction in laboratory work, and on completion *to Army Medical School,* for duty, Lieut. JOHN N. HAYES, Pittsburgh.

To the inactive list, Lieut. HAROLD A. FLETCHER, Philadelphia.

To his home and honorably discharged on account of physical disability existing prior to his entrance into the service, Lieut. BARNETT H. COOPER, Glen Lyon.

Philippine Islands

To San Francisco, Calif., and report to the Adjutant-General and Surgeon-General for instructions, Lieut. JOHN H. BULLOCK, Manila.

Rhode Island

To Fort Oglethorpe for instruction, Capt. ALLEN A. WEEDEN, Woonsocket.

South Carolina

To Army Medical School, Washington, D. C., for instruction, Lieut. ADOLPHUS L. LITTLE, Blacksburg.

To Camp Sherman, Chillicothe, Ohio, for duty, from Fort Oglethorpe, Lieut. ASHLEY B. WEATHERSBEE, Belton.

To his home and honorably discharged, Lieut. WM. D. LYNCH, Scranton.

South Dakota

To his home and honorably discharged on account of physical disability incurred in line of duty, Lieut. JAMES C. WALTON, Isabel.

Tennessee

To Boston, Mass., Boston City Hospital, for instruction, and on completion *to Camp Devens,* base hospital, from Fort Oglethorpe, Capt. THOMAS A. P. R. JONES, Knoxville. On completion *to Camp Dix,* base hospital, from Fort Oglethorpe, Lieut. ELLIS L. WILKINS, Dyersburg.

To Camp Dix, Wrightstown, N. J., for duty, from Fort Oglethorpe, Lieut. THOMAS C. CHAPMAN, Brownsville.

To Camp Gordon, Atlanta, Ga., Military School of Aeronautics, from Camp Gordon, Capt. EDWIN D. WATKINS, Memphis.

To Camp MacArthur, Waco, Texas, for duty, from Camp Greene, Lieut. CURTIS R. SENTER, Memphis.

To Fort Oglethorpe for instruction, Capts. CARL T. SPECK, Cleveland; DAVID M. HENNING, Memphis; from Camp Dix, Lieut. FREDERICK W. LEE, Springfield.

To Fort Sam Houston, Texas, for duty, Lieut. ELMER S. MAXWELL, Nashville.

To Lonoke, Ark., Eberts Field, Signal Corps, Aviation School, for duty, Capt. CHARLES W. BROWN, Nashville.

To Newport News, Va., for duty, from Fort Oglethorpe, Lieut. AUBIN T. KING, Jefferson City.

To Waco, Texas, Aviation Mobilization Camp, from Fort Riley, Lieut. ORVILLE B. MOON, Bell Buckle.

Texas

To Army Medical School, for instruction, Lieut. IVAN E. HIX, Fort Worth.

To Camp A. A. Humphreys, Accotink, Va., Lieut. MAURY J. PERKINS, Alice. For duty, from Fort Oglethorpe, Lieut. OLIVER R. TIMMINS, San Antonio.

To Camp American University, Washington, D. C., as assistant to the camp surgeon, from Fort Oglethorpe, Lieut. CHARLES H. OTKEN, Paige.

To Camp Dix, Wrightstown, N. J., for duty, from Fort Oglethorpe, Capt. MILEY B. WESSON, El Paso; Lieut. JAMES D. BOZEMAN, Fort Worth.

To Camp MacArthur, Waco, Texas, for duty, from Camp Bowie, Lieut. JAMES W. REID, Maysfield.

To Fort Oglethorpe for instruction, Capt. SHADRACK L. BOREN, Del Rio; Lieuts. CRANZ NICHOLS, Maxwell; JESSE C. MAY, Ochiltree.

To Fort Riley for instruction, Lieuts. WILLIAM B. FOSTER, Huckabay; EDMUND C. HANCOCK, Paris. Hospital train, from Fort Riley, Lieut. SIMSON H. NEWMAN, El Paso.

To Fort Sam Houston, Texas, for duty, from Fort Sam Houston, Major WALTER H. MOURSUND, Dallas.

To Hoboken, N. J., for duty, from Fort Oglethorpe, Lieuts. IVISON GRIMES, Camden; HARRY P. HARBER, Galveston.

To New York City, Neurosurgical School, Neurological Institute, for instruction, and on completion *to Hoboken, N. J.,* for temporary duty, from Fort Riley, Lieut. GEORGE L. LANGWORTHY, Lakeview.

To Southern Department for assignment to duty, from Fort Sill, Capt. ARTHUR W. C. BERFELD, Seguin.

To Walter Reed General Hospital, Takoma Park, D. C., for temporary duty, Lieut. EDWARD C. BRANNON, Waco.

Utah

To Army Medical School for instruction, Lieuts. CLIFFORD J. HEATH, Marysvale; WILLIAM J. BROWNING, Roosevelt.

Resignation of Lieut. LESLIE S. MERRILL, Bingham Canyon, accepted.

Vermont

To Camp Meade, Annapolis Junction, Md., for duty, from Fort Oglethorpe, Lieut. ANSELME E. HOULE, Bennington.

To Camp Sherman, Chillicothe, Ohio, for duty, from Fort Oglethorpe, from Fort Oglethorpe, Lieut. JULIUS E. DEWEY, Montpelier.

To Camp Upton, Long Island, N. Y., base hospital, Lieut. EDWARD V. FARELL, Danby.

To Fort Benjamin Harrison, Ind., hospital train, from Fort Oglethorpe, Lieut. CHARLES P. CHANDLER, Montpelier.

To Newport News, Va., for duty, from Fort Oglethorpe, Lieut. PERCY E. BUCK, Glover.

Virginia

To Camp Greene, Charlotte, N. C., base hospital, Lieut. RAYMOND B. LOCKRIDGE, Mount Grove.

To Camp Lee, base hospital, Lieuts. EDWARD E. SCHILLINGER, Hampton; SIMON H. ROSENTHAL, Lynchburg.

To Camp MacArthur, Waco, Texas, for duty, from Camp Jackson, Lieut. BERNARD BARROW, Barrow's Store.

To Fort Oglethorpe for instruction, Lieuts. MARSHALL L. BOYLE, Jr., CHARLES W. MERCER, Richmond.

To Hoboken, N. J., for duty, from Fort Oglethorpe, Lieuts. WILLIAM WILSON, Greenwood; FRANK W. LEWIS, Morattico.

To Newport News, Va., for duty, from Fort Oglethorpe, Lieut. RALPH M. THOMPSON, Purcellville.

Washington

To Camp Doniphan, Fort Sill, Okla., for duty, from Fort Riley, Lieut. ALEXANDER W. SEIBERT, Wenatchee.

To Camp Grant, Rockford, Ill.; *Camp Dodge,* Des Moines, Iowa, and *Camp Funston,* Fort Riley, Kan., for duty, and on completion *to his proper station,* from Camp Lewis, Major HORACE J. WHITACRE, Tacoma.

To Fort Benjamin Harrison, Ind., hospital train, from Fort Riley, Capt. FREDERICK W. NATHER, Spokane.

To Fort Riley for instruction, from Portland, Ore., Lieut. LORENZO S. DEWEY, Okanogan.

Resignation of Lieut. CARL O. LIND, Seattle, accepted.

West Virginia

To Camp Dix, Wrightstown, N. J., for duty, from Fort Oglethorpe, Lieut. ARCHIE B. RINEHART, McMechen.

To Camp Lee, Petersburg, Va., to examine the command for nervous and mental diseases, from Neurological Institute, New York, Lieut. ROSS DODSON, Spencer.

To Camp MacArthur, Waco, Texas, for duty, from Camp McClellan, Lieut. ADLAI E. CALLAGHAN, Parkersburg.

To Fort Oglethorpe for instruction, Capt. CHARLES O. STAATS, Spencer; Lieuts. ALVAH L. PARSONS, Charleston; DAVID McA. AIKMAN, War; JAMES E. HATFIELD, Williamson.

To Newport News, Va., for duty, from Fort Oglethorpe, Capt. WALTER F. LEECH, Richmond.

Wisconsin

To Camp Custer, Battle Creek, Mich., for duty, from Fort Riley, Lieut. MARTIN J. TREICHLER, Hancock.

To Camp John Wise, San Antonio, Texas, for duty, from Fort Riley, Lieut. ARTHUR F. STUECK, Michicot.

To Camp Taylor, Louisville, Ky., base hospital, Lieut. ERNST L. HENNIG, Beloit; CECIL B. HAKE, Milwaukee.

To Camp Travis, Fort Sam Houston, Texas., for duty, from Allentown, Lieut. LEON G. SMITH, Ellsworth.

To Cape May, N. J., for duty, and on completion *to his proper station*, Major NELSON M. BLACK, Milwaukee.

To Newport News, Va., for duty from Fort Logan H. Roots, Lieut. CHARLES B. RYDELL, Superior.

To St. Paul, Minn., Signal Corps Detachment, Lieut. DAVID D. MEHIGAN, Milwaukee.

To Waco, Texas, Aviation Mobilization Camp, from Fort Riley, Lieut. JAMES H. FOWLER, Lancaster.

Wyoming

To his home and honorably discharged on account of physical disability existing prior to his entrance into the service, Capt. WALTER M. LACEY, Cheyenne.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST; SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

ILLINOIS

Dwyer Asks Rehearing.—Lieut. John G. Dwyer, who was recently ordered dismissed from the Army at Camp Funston, following a court martial, has asked for a rehearing. Lieutenant Dwyer was a practitioner at Cullom. He states that the charges against him were made by Captain Whistler, who afterward robbed the bank at the camp of $62,000, killed four men with an ax, and then took his own life.

Safeguarding Camps.—Plans for the joint supervision of sanitary conditions in Illinois training camps by state and federal authorities have been formulated by the office of Dr. C. St. Clair Drake, state director of health. It has been recommended to enlarge the military camp at Scott Field, Belleville, to include East St. Louis. The other six military zones in Illinois are Fort Sheridan; Great Lakes; East Peoria, which includes Peoria; Chanute Field, Rantoul; Rock Island and Moline, and Camp Grant, Rockford. Medical directors will be appointed to oversee the work of sanitation in these military zones.

Chicago

Personal.—Dr. Robert Lenard, South Chicago, was shot through the head by the husband of a patient, March 1.——Dr. Robert A. Allen, for six years medical director of the Westside Y. M. C. A., left, March 6, for similar work in France.

Grievance Committee Formed.—The Chicago Medical Society has formed a grievance committee to protect the profession from medical quacks, violators of the medical and other laws, and to investigate disreputable persons in the city. The committee is composed of Dr. Fred L. Glenn, George L. Apfelbach and Otto T. Freer.

Sanitary Inspector in Washington.—Mr. C. B. Ball, chief medical inspector of the Chicago Health Department, is in Washington, D. C., where he has been asked to remain as a member of the staff of Otto Eidlitz, head of the housing department of the Department of Labor and the Council of National Defense.

INDIANA

Hospital Opened.—A new hospital constructed of brick, concrete and steel, containing thirty-three beds and costing $60,000, has been opened at Connersville.

Hygiene for Police.—A hygiene school for policemen is to be opened in Indianapolis. Dr. H. C. Morgan, secretary of the board of health, is to be the instructor. The course will prepare the police force for supervising conditions affected by alleys and premises, and will aim to teach the primary precautions against disease and bad living conditions. Proper sewage disposal and housing conditions will be included in the instruction.

LOUISIANA

Personal.—Dr. J. George Dempsey, New Orleans, has been called to France for special tuberculosis work under the American Red Cross.——Dr. Rudolph Matas, New Orleans, recently spoke before the New Orleans Association of Commerce, on "Recent Achievements in War Surgery."——Dr. Ernest C. Samuel has been reelected radiologist of the Eye, Ear, Nose and Throat Hospital, New Orleans.

MAINE

Graduation Exercises.—March 2 the annual graduation exercises of the Medical School of Maine were held in Portland. Acting President Kenneth C. Sills of Bowdoin College presided. The annual address was delivered by the Rev. Ashley Day Leavitt.

Progress of State Health Department.—The newly established department of health is progressing in material welfare as well as in accomplished work. In a short time the department will move from the state house into new quarters recently modeled for the use of the various divisions, including the laboratories. The staff of workers is being constantly increased on account of the growth of the work. Recently a successful joint conference was held by the state department and the local boards of health. This was the first meeting of its kind to be held in the state.

MARYLAND

Campaign to Raise Funds for Hospital.—Plans have been inaugurated for a campaign to raise $25,000 for the South Baltimore Eye, Ear and Throat Hospital. The money raised will be used to enlarge the hospital and convert it into a general hospital.

Pneumonia Still Prevalent.—Pneumonia continues on the increase despite the advent of springlike weather, as recently there were reported within twenty-four hours, twenty-two new cases and seven deaths. The health department is confident that the present apparent epidemic will soon subside, as the general public is rapidly becoming educated to the necessity of observing its rules for the protection of health.

MINNESOTA

Personal.—Lieut. John S. Abbott, M. R. C., St. Paul, on duty with the British forces is reported to be suffering from a slight attack of trench fever at a base hospital.——Drs. Thomas Russell, Grand Rapids; Delbert F. Dumas, Deer River; R. V. C. Blythe and Edward Seguin, Bovey, have been appointed physicians of Itasca County.

Service Flag for Medical College.—A service flag bearing fifty stars was hoisted over Millard Hall, the main hall of the University of Minnesota, Minneapolis, February 25. The stars represent the members of the faculty who have entered the Medical Corps.——February 26, the students of the college of medicine dedicated a service flag bearing about 700 stars, representing all the students who have entered the government service since the outbreak of the war.

Lectures on Social Hygiene.—Dr. Mabel S. Ulrich, Minneapolis, supervisor of social hygiene education for the state board of health, has arranged for a course of lectures to be given at the University of Minnesota, Minneapolis, for the purpose of training women to extend the work of giving social hygiene lectures throughout the state. Professors Nochtrieh, Frank C. Todd, Coffman and Woodrow of the faculty are cooperating with Dr. Ulrich, and each will give two or three lectures on problems of social hygiene along their respective lines of work in the university. This course is open only to women outside the university, students and other persons suggested by the state board of health.

MISSOURI

Academy Banquet.—At the twenty-third annual banquet of the Kansas City Academy of Medicine, February 13, twenty-five officers of Base Hospital Unit No: 28 were the guests of honor. Dr. Peter T. Bohan officiated as toastmaster, and addresses were made by Majors Reginald H. Meade, Lindsay S. Milne, John F. Binnie, and Jabez N. Jackson, and by Dr. C. Lester Hall, all of Kansas City.

Social Diseases Reportable.—By unanimous vote, the city council of Kansas City has passed ordinances ruling that persons who have social diseases are reportable for isolation and treatment, prohibiting all persons from pandering or from living as inmates of disorderly houses, and making it

a misdemeanor for an owner or driver of a public conveyance to solicit the patronage of questionable places.

Service Flag Presentation.—At its meeting, February 22, the Greene County Medical Society was presented with a service flag bearing eleven stars to represent the members of the society who are in the Medical Reserve Corps of the Army. Attorney Perry T. Allen, in his presentation speech, commended the physicians for their loyalty in sacrificing a good practice to accept the fortunes of war. Dr. William Smith, a pioneer member of the society, accepted the flag and the Rev. C. B. Miller made a patriotic address which was followed by a banquet tendered the members and guests at the Physicians' Club.

Personal.—Dr. Elliott Washburn, formerly business manager of the Kansas City General Hospital, and for the past few weeks in charge of the tuberculosis ward of the institution, has accepted a position on the state tuberculosis commission of New York.——Dr. John Kay, Perrin, was operated on for appendicitis at the Sisters' Hospital, St. Joseph, February 18, and is doing well.——Dr. William M. Kerr, Savannah, health officer of Andrew County, is convalescing after an attack of smallpox.——Dr. John F. Binnie, chief of the surgical staff of Base Hospital Unit No. 28, has resigned as a member of the staff of the Kansas City Hospital.

NEW YORK

Physicians' Building Sold.—The Physicians' and Surgeons' Building, Rochester, was sold under foreclosure action against the Rochester Medical Building Company, incorporated, February 14. The purchase price was $30,000, subject to two incumbrances amounting to $125,000.

Physical Training in Public Schools.—Dr. Eugene Lyman Fisk, medical director of the Life Extension Institute has issued a protest against various amendments pending in the legislature which would greatly weaken the present system of compulsory physical training in the rural schools.

Smallpox in New York State.—A recent report issued by the New York State Health Department states that within the past few months there have been more than 250 cases of smallpox in various parts of the state, several of them being in the city of New York. In Utica there were forty-seven cases within two months, and seventy-eight cases in Frankfort County.

Personal.—Dr. Adolph I. Ringer has been appointed special consultant in diseases of metabolism in the German Hospital.——Dr. John E. Daugherty, Brooklyn, medical superintendent of Green Point Hospital for many years, was ordered transferred by Charity Commissioner Bird S. Coler, and has been succeeded by Dr. Thomas I. Price, assistant medical superintendent for the Kings County Hospital.——Lieut. Albert E. Gilmartin, Brooklyn, M. R. C., on duty at the base hospital at Camp Merritt, has been given leave of absence because of a nervous breakdown.

OHIO

Personal.—Dr. Albert C. Carney has been elected president of the Hamilton Tuberculosis Sanatorium.——Dr. James G. Alcorn, Columbus, has just returned after five months' service with a base hospital at LaPanne, Belgium.——Dr. Clayton W. Russell, Springfield, is reported to be ill in the Springfield City Hospital.

Licenses Revoked and Reinstated.—It is reported that the license of Dr. George W. W. Walker of Roseville has again been revoked. He was formerly associated with the notorious "United Doctors" and his license was revoked several months ago. He was reinstated on the promise to cease itinerant practice, but on failure to do so, his license has been again revoked.——The license of Dr. Alfonza Aratus of Cincinnati was revoked by the state medical board on April 6, 1909, but at a recent meeting of the board he has been reinstated. He has been practicing in Kentucky during the interim.——The state medical board has postponed definite action on the reinstatement of Dr. Henry O. Davis of Steubenville whose license was revoked in 1914.

PENNSYLVANIA

Succeeds Dixon.—Dr. B. Franklin Royer, who has been chief medical inspector of the state department of health for a number of years and who has supervised the work in the Harrisburg office during the long illness of Dr. Dixon, has been appointed active health chief, pending the selection of a permanent successor to the late commissioner.

Admission of Venereal Diseases to Hospitals.—The bureau of medical education and licensure has sent a notice to all the hospitals in the state urging them to admit patients with venereal diseases to their wards and dispensaries and to make adequate provision for their treatment. Emphasis was laid on the need of training of interns in the care of such cases.

Personals.—Dr. J. Louis Borsch, Jr., formerly of Philadelphia, has been awarded the Legion of Honor in recognition of his services as eye surgeon in the military hospital of Grand Père.——Dr. J. Solis Cohen celebrated his eightieth birthday anniversary, February 28.——Dr. George A. Knowles has been appointed a member of the board of trustees of the state hospital for the insane at Norristown.——Dr. Nathaniel S. Yawger has been appointed consulting neurologist to the eastern state penitentiary.

Philadelphia

Officers Elected.—At the meeting of the Philadelphia Neurological Society, February 27, the following officers were elected for the ensuing year: president, Dr. Max H. Bochroch; vice presidents, Drs. Samuel C. Ingraham and Augustus A. Eshner; secretary, Dr. Nathaniel S. Yawger, and treasurer, Dr. S. F. Gilpin.

WISCONSIN

Personal.—Dr. Daniel Hopkinson, Milwaukee, read a paper on "The Medical Witness" at the first session of the annual meeting of circuit judges of the state, held at Milwaukee, February 22.——Dr. Morris Morrison, Cashton, sustained serious injuries to the head and body in a runaway accident, February 26.

Banquet to Base Hospital.—The medical members of the Milwaukee Base Hospital Unit were tendered a complimentary dinner at the University Club by the Milwaukee Medical Society, February 21. Dr. Horace Manchester Brown was toastmaster, and addresses were made by Col. Thomas J. Kirkpatrick, director of the unit, Drs. Arthur T. Holbrook and Philip P. Rogers, and the Rev. Paul B. Jenkins.

CANADA

University News.—The Carnegie Corporation, New York City, has presented McGill University, Montreal, with $1,000,000 in recognition of the devoted service and sacrifice of that institution in helping to bear Canada's burden of the war.——Mrs. Frank Oliver, Edmonton, Alta., has offered McGill University $10,000 or more to establish an annual scholarship of the value of $500 in memory of her son, the late Lieut. Allen Oliver, M.C., killed at the Somme.——The Ontario legislature is granting to the Ontario universities for 1918, the following amounts: Western, London, $20,000 for the public health department; $15,000 for the medical department; $15,000 for the arts, and a special grant of $10,000; Toronto University, large grants, including a special grant of $175,000; Queen's, Kingston, $80,000, including a special grant amounting to $25,000.

Personal.—Dr. Murdock D. Morrison, Dominion, Nova Scotia, has been appointed chief medical officer of the Nova Scotia Workmen's Compensation Board. He has been colliery doctor at Dominion since 1897.——Dr. Delmar Craig, London, Ont., has given up his position as superintendent of the Byron Sanatorium, and has joined the Canadian Army Medical Corps.——Dr. John W. Wood has been appointed surgeon to the jail at Lindsay, Ont., succeeding the late Dr. Wellington C. Jeffers.——Dr. Geraldine Oakley, Toronto, has been appointed supervisor of medical inspection in the public schools of Calgary, Alta., succeeding Dr. Rosamond B. Leacock, who will devote herself to pathologic work.——Col. William B. Hendry, D. S. O., who has been in command of the University of Toronto Base Hospital at Basingstoke, England, is expected to arrive in Toronto in a few days on a two months' leave of absence. While here he will consult with the university authorities with regard to increasing the accommodation at that hospital.——Lieut.-Col. Harold C. Parsons, Toronto, will be in command of the University of Toronto Base Hospital while Colonel Hendry is in Toronto.——Major Howard D. Harrison, Toronto, who joined the R. A. M. C. in 1915, is returning to Toronto to enter private practice.

GENERAL

Discharge of Carriers.—The attention of the Surgeon-General of the United States Public Health Service has been called to the fact that men from the military service who are

carriers of various infectious diseases, particularly meningitis, have been discharged into the civil communities of the country. Dr. Oscar Dowling, president of the Louisiana State Board of Health, has made a particularly strong protest against this action by the government authorities, calling attention to specific instances in which meningococcus carriers have been discharged from the service.

British Medical Journal Under Handicap.—Our contemporary, the *British Medical Journal*, states that in addition to a fire which has recently handicapped it in its mechanical department, it is about to suffer from restrictions which are to be enforced by the paper commission, and that its number of pages will be reduced, although to what extent is not announced.

Bequests and Donations.—The following bequests and donations have recently been announced:

Physicians Hospital, Plattsburg, N. Y., the bulk of the estate of Arnold H. Ellis, Plattsburgh, appraised at $50,000.

New York Association for the Blind, and Home of Rest for Consumptives, $10,000 each, and a hospital in Syracuse to be designated by Grace Church of Baldwinsville, $5,000, by the will of Mrs. Mary Elizabeth Turnure.

Posture League.—The annual meeting of the American Posture League in New York City, March 9, closed with a dinner for the honorary boards at the Aldine Club. The following officers were elected: Miss Jessie H. Bancroft, president; Major Frederick R. Green, M. R. C., U. S. Army, Chicago, vice president; Dr. Henry Ling Taylor, New York City, secretary, and Dr. Percy W. Roberts, treasurer, New York City. The reports for the year showed great activity along lines created by war conditions, indicating a quickened public conscience on the subject of health. The technical committees of the league reported that the work for the year was completed on factory and school seats, and shoes and other articles of clothing for men, women and children. They also reported a large educational service rendered by the league.

License for the Sale of Chemicals.—A license is now required for the sale of certain chemicals. This license must be procured from the Bureau of Mines, Washington, D. C., and Pittsburgh, or from a designated representative in certain localities. The cost of the license is 25 cents, and covers the following chemicals: nitro acids of all kinds, perchloric and picric acids, ammonium bichromate, chromate, nitrate and picrate, barium chlorate, chromate, nitrate and peroxid, calcium chromate, permanganate and peroxid, copper and ferric nitrate, lead chromate and citrate, magnesium nitrate, perborate and peroxid, nickel nitrate, oxone, potassium bichromate, chlorate, chromate, nitrate, perchlorate and permanganate, phosphorus, silver nitrate, sodium bichromate, chlorate, chromate, perborate, permanganate and peroxid, strontium chlorate, nitrate and peroxid, and zinc perborate and peroxid.

FOREIGN

Prize Offered for Work on Biochemical Causes of Cancer.—A Swedish exchange, *Hygiea*, reproduces a circular sent out by the Senckenberg Scientific Society at Frankfurt a. M., Germany, announcing that a prize of 15,000 marks is to be awarded in September, 1920, for the best work on the biochemical causes of malignant tumors. The circular further states that an annual stipend of 5,000 marks may be allowed to one or several workers in this line after Sept. 1, 1918, for the purchase of material, etc. Prof. A. Knoblauch is in charge of the matter.

Deaths in the Profession Abroad.—A. W. E. Erlandsen, professor of hygiene at the University of Copenhagen, aged 39. His works on phosphatids, on the titrated skin tuberculin tests and on phlorizin diabetes have attracted attention, and his work in recent years as consultant in public health matters has been of fundamental importance. He succumbed to granulomatosis.——**C. I. Istrati,** professor of organic chemistry and dean at the University of Bucharest, president of the Roumanian Academy of Sciences.——**J. W. Runeberg,** professor emeritus of clinical medicine at the University of Helsingfors, Finland, aged 75. He was on the editorial staff of the *Nordiskt Mediziniskt Arkiv* and of the *Finska Läkaresällskapets Handlingar* and was a prominent figure at international medical gatherings. His name is best known by his work on the bothriocephalus and pernicious anemia.——**G. Walling,** medical member of the Havana board of health for thirty-four years.

LONDON LETTER

LONDON, Feb. 19, 1918.

Improvement in Health of London Schoolchildren During the War

At the meeting of the Education Committee of the London County Council, the Children's Care Subcommittee reported on the physical condition of children in London schools, to which close attention has been given during the war. It is found that there has been an all-round improvement in the physical condition of the children, and that the number undernourished has greatly decreased. The explanation appears to be the high wages earned during the war and the absence of unemployment, which have more than compensated for the increased cost of living.

Army Medical Records

The problem of army medical records is a complicated one. The sick or wounded soldier passes through many hands from the time he is struck down on the field till he reaches the hospital in England. It is important not only for his treatment but also for the compilation of the medical history of the war that complete records should be kept. The case sheets that have been in use in the army, however suitable in time of peace, have been found cumbersome under the pressure of this gigantic war. The statistical department of the Medical Research Committee (a body appointed under the insurance act for medical investigation which, as previous letters to THE JOURNAL show, has rendered great service in investigations connected with the war) has devised a new medical field card to serve as a condensed diary of the patient's hospital career at the seat of the war. The first entry is made by the field ambulance; it gives the date of the wound or onset of illness, a note of the administration of antitetanic serum or morphin, and the diagnosis. The card is enclosed in a stout envelop, which is tied to the man's tunic, and goes with him to the casualty clearing station. There, as at the base hospital, any alteration or addition to the diagnosis is noted, and the inside of the folded card affords space for clinical notes. The envelop contains spaces for particulars of the ambulance train, convoy and hospital ship by which the man is transferred, as well as for information regarding his needs in transit. Temperature charts or additional notes may be sent in the envelop. Thus the patient reaches the home hospital with a brief record of the early stages of his case. On his admission to an oversea base hospital another card—the index card—is issued. There the diagnosis, any operation and its result, and all complications in order of occurrence and a brief summary of other important facts are entered. When the patient reaches a home hospital from overseas, a similar card, printed in red, is made out for him. The cards eventually reach the Medical Research Committee, which arranges and files them for future reference. The three (or two) cards taken together obviate the necessity of maintaining the old medical case sheet, which is no longer required, except for cases of special importance or interest. In addition to this uniform system, applicable to all cases, another more elaborate system has been set up to facilitate inquiries into special classes of cases. Special note-taking schedules have been supplied by the Medical Research Committee to be used for grouping the records of special types of cases, the treatment of which is being studied by chosen medical officers. These subjects include wounds of joints and fractures of long bones; amputations; wounds of the head, chest and abdomen; functional nervous disorders; injuries of the spine; disorders of the heart; nephritis, and gas poisoning.

The Army Medical Service

Since he abandoned practice (except that of consulting surgeon to the navy) for Parliament, Sir Watson Cheyne has done useful work by bringing his special knowledge to bear on medicopolitical questions. His maiden speech on the question of bone-setters and the treatment of wounded soldiers has been previously given in THE JOURNAL. He has now criticized the government for the delay in the publication of the report of the committee that has inquired into the medical service in France. It appears that the matter has been under the consideration of the Army Council for two months. Sir Watson Cheyne expressed the opinion that the delay may be in part due to the fact that there is no medical member on this council. Had the director-general of the army medical service been a member of the council when the medical arrangements were being devised for the

Mesopotamia expedition, there would have been no scandal. A similar question with regard to the more complete recognition of the medical service of the United States Army has recently been discussed in The Journal. Sir Watson Cheyne also pointed out that quite early in its work the Air Board had recognized the need of a medical service for the new force. A committee was appointed to advise, but action on its report was delayed and it became known that some sort of intrigue had been going on with the view of preventing the establishment of a special service. Thereupon a second committee was appointed, which tried to keep the two older services in touch with the air service, and a compromise has been reached. The delay of many months such as had occurred was very serious; airmen were losing their lives for want of a proper medical service, and during the period of delay medical officers could not be trained to cope with their illness. Though he did not think much of the compromise, he hoped that it would allow the air service to begin at once to train medical officers. If the compromise broke down, it would be possible to fall back on the original complete scheme.

PARIS LETTER

Paris, Feb. 14, 1918.

Surgical Results Obtained During the Last Aisne Offensive

At a recent meeting of the Académie de médecine, Dr. Tuffier, professeur agrégé à la Faculté de médecine de Paris, and chirurgien des hôpitaux, read a very interesting communication on this subject. As consulting surgeon of the armies in the field, he has been instrumental in effecting the organization of the medical services for the wounded, following the operations during the battle and confirming the ultimate results. He said that our soldiers attained more than the assigned objective on the first day. The irresistible assault necessarily entailed a high proportion of severe wounds; in fact, although 80 per cent. of the wounded were evacuated at once, 20 per cent. were found to be untransportable. So far as the site of the wound is concerned, 16 per cent. were head wounds; 33 per cent. legs; 34 per cent. arms; 10 per cent. thorax; 4 per cent. abdomen, and 2.6 per cent. spine; 20 per cent. of the men suffered multiple wounds. Shell fragments caused 72 per cent. of the wounds; bullets, 17 per cent. The general mortality among the wounded has been 5.18 per cent., due to hemorrhage, to shock, and to the gravity of the wounds. Complicating gangrene had a rate of 3 per thousand, and tetanus of 5 per 10,000. The abdominal wounds were always the most severe. They caused 61 per cent. of the mortality; on the other hand, wounds of the thorax yielded the greatest number of successes (20 per cent. mortality). The fractures and wounds of joints comprised 77 per cent. of the sutures. The wounds of the soft parts gave most remarkable results (83 per cent. cured), so that after forty-five days there remained in the army zone posts only 1.43 per cent. of the wounded.

These results, heretofore unknown during periods of offensive of such intensity, were due to the best possible arrangement of well organized surgical posts; the rapidity of the relief given and the evacuation of the wounded to the special posts for each class of wounds, of which the need was well foreseen; the close cooperation between all the surgical services, which made use of the same technic and the fact that surgeons were able to follow their patients from the firing line back to the rear; and, finally, to the perfection of the technic of immediate disinfection of wounds, primary suture—immediate or tardy—and to secondary suture after chemical disinfection according to the Carrel method.

Recreation Centers for Soldiers

M. Painlevé, minister of war, has decided to establish about 1,300 "foyers du soldat" in the rest billets of the armies. He called on those who have already been doing so much to promote the moral and physical welfare of the soldiers both at the front and in the rear, and referred especially to those who organized the "Foyer du soldat," founded in 1914. The commander in chief has endorsed this appeal and approved of the immediate organization of 100 new "foyers."

The underlying idea is to enable the soldier during his rest periods to spend his time acceptably by contributing to his material comfort and also furnishing him with diversion. M. Sautter, who organized the "Foyer du soldat" in 1914, knew well the obstacles and difficulties to be surmounted. These have been overcome, thanks to the cooperation of the Americans, as shown by the assistance granted by the Y. M. C. A., which has agreed to aid in carrying on the same work in the French armies. This activity will be designated as "Les Foyers du Soldat. Union franco-américaine." Two figures suffice to emphasize the importance of the work done already. Up to the end of 1917, 4,300,000 francs had been spent. The central committee of the Y. M. C. A. in New York has decided to raise for the first six months of 1918, 17,500,000 francs, which will provide sufficient funds to defray the expenses of the 1,300 recreation centers which the minister of war has decided to establish.

Conservation of Public Health

At its last meeting, the council of administration of the Union des syndicats médicaux de France passed a resolution in which it was stated that, being informed of the projects of the Assistance publique relative to the medical organization of the fight against syphilis, the council approves of the establishment of dispensaries for the treatment of this disease, demanding, however, that these dispensaries be placed in charge of physicians to be appointed on advice of the medical authorities and not at the behest of the prefects. The council protested against treating all classes of patients in these dispensaries, whatever their material situation may be, because the prophylactic work demands a most thorough examination by the chiefs of the service, and the individual treatment of all patients, without exception, which is impracticable under a system of open consultation without control.

Association News

THE CHICAGO SESSION

Committee on Arrangements

The Local Committee on Arrangements for the Annual Session of 1918 to be held in Chicago, June 10-14, is actively engaged in perfecting plans for the comfort and entertainment of the Fellows of the Association and their guests.

All correspondence with the Local Committee on Arrangements or with any of its subcommittees should be addressed to 25 East Washington Street, Chicago.

Clinics

The chairman of the subcommittee on clinics, Dr. Charles F. Humiston, announces that there will be a series of clinics for the Fellows of the Association on Thursday, Friday and Saturday, June 6, 7 and 8, and on Monday and Tuesday, June 10 and 11. Further announcements regarding the clinics will appear in these columns from time to time.

Alumni and Section Dinners

Alumni and section dinners will be held on Wednesday evening from 6 to 8 o'clock so as not to conflict with other events which are being planned. The chairman of the subcommittee on alumni and section entertainment, Dr. J. H. Stowell, announces that his committee is cooperating with officers of alumni associations in arranging for reunions. The committee desires, also, to assist the officers of those sections which desire to arrange for section dinners.

Marriages

Lieut. Milfert Weaver Meyers, M. R. C., U. S. Army, York, Pa., on duty at Camp Wadsworth, Spartanburg, S. C., to Miss Anna Neal of Lansford, Pa., at Camp Wadsworth, February 14.

Lieut. George Henry Crofton, M. R. C., U. S. Army, Worcester, Mass., on duty at Fort Sam Houston, Texas, to Miss Agnes J. Rogers of Hartford, Conn., February 6.

Robert Sproul Carroll, M.D., Asheville, N. C., to Miss Grace Stewart Potter of Chicago, February 28.

Wilbur C. Medill, M.D., Yonkers, N. Y., to Miss Fay Calderwood of Steubenville, Ohio, February 2.

William Alanson White, M.D., to Mrs. Lola P. Thurston, both of Washington, D. C., February 21.

Arthur Isidor Blau, M.D., to Miss Lillian Evelyn Klein, both of New York City, February 25.

Deaths

Howard J. Williams, M.D., Macon, Ga.; Jefferson Medical College, 1881; aged 59; a Fellow of the American Medical Association; president of the Medical Association of Georgia in 1907; formerly president of the state board of health; a member of the medical staff of the Macon Hospital since the institution was founded; for twenty years a member and for five years chairman of the city board of health; one of the noted surgeons of the South; surgeon of the Central Georgia Railroad since 1897, and of the Georgia Railroad since 1890; and chief surgeon of the Macon, Dublin, and Savannah Railroad; president of the Central of Georgia Surgeons' Association in 1895, and at the time of his death president of the Georgia Railway Surgeons' Assocation; died in his sanatorium in Macon, March 1, from carcinoma of the throat.

Alfred Birch Huested, M.D., Delmar, N. Y.; Albany (N. Y.) Medical College, 1863; aged 77; a member of the Medical Society of the State of New York; hospital steward of the One Hundred and Thirteenth New York Volunteer Infantry, and later first lieutenant and assistant surgeon of the One Hundred and Thirty-First New York Volunteer Cavalry during the Civil War; for many years a druggist; president of the State Pharmaceutical Association from 1880 to 1884; professor of materia medica and botany in the Albany College of Pharmacy from 1893 to 1917, and for the last five years secretary of the college; president of the state board of pharmacy from its organization in 1884, for sixteen years, and a member of the board until the time of his death; died at his home, February 23.

David Powell, M.D., Marysville, Calif.; Cooper Medical College, San Francisco, 1871; aged 69; formerly a Fellow of the American Medical Association; a member of the Medical Society of the State of California; one of the organizers of the Yuba-Sutter Medical Society, and its secretary for several terms; once president of the California Northern District Medical Society; at one time a member of the State Board of Medical Examiners; for many years district surgeon for the Southern Pacific, Western Pacific and Northern Electric railways; for several terms a member of the Marysville Board of Health and Board of Education; died at his home, February 28, from malignant diseases.

Died in the Service

CAPT. FRANK SHUMWAY PRATT, M.D.,
M. R. C., U. S. ARMY, 1866-1918

(*See The Journal, March 2, p. 641*)

Read Jennings McKay, M.D., Wilmington, Del.; Bellevue Hospital Medical College, 1867; aged 75; a member of the Delaware State Medical Society and its president in 1885; formerly a Fellow of the American Medical Association; a member of the American Ophthalmological Association, and American Otological Society; president of the Newcastle County Medical Society in 1904; assistant to the chair of ophthalmology in his alma mater from 1872 to 1877; oculist and aurist to the Delaware Hospital, Wilmington; died at his home, March 1.

Frederick Dudley Tait, M.D., San Francisco; Bellevue Hospital Medical College, 1886; University of Paris, France, 1889; aged 55; a Fellow of the American Medical Association; formerly president of the California Academy of Medicine; a member of the State Board of Medical Examiners, and of the French Surgical Society; president of the San Francisco County Medical Society; a prolific contributor to the periodical literature of surgery; died in the Adler Sanatorium, San Francisco, February 26, from malignant endocarditis.

Alfred Hamilton Levings, M.D., Milwaukee, Wis.; Northwestern University Medical School, Chicago, 1872; aged 70; a Fellow of the American Medical Association, and a member of the Western Surgical Association; one of the organizers and first president of the Wisconsin Surgical Association; professor of surgery and clinical surgeon in Marquette University, Milwaukee; one of the best known surgeons of the Northwest; died at his home, March 4.

Frank Marshall Reade, M.D., Richmond, Va.; Medical College of Virginia, Richmond, 1899; aged 54; formerly a Fellow of the American Medical Association; professor of pharmacy, and later of meteria medica, therapeutics and obstetrics in his alma mater; chief of the obstetric staff of the Virginia Hospital, Richmond, and for several terms a member of the common council; died at his home, February 26, from chronic nephritis.

Elisha P. Swift, M.D., Norway, Mich.; University of Pennsylvania, Philadelphia, 1889; aged 52; formerly a member of the Michigan State Medical Society, and a Fellow of the American Academy of Medicine; proprietor of the Pennsylvania and Aragon Hospital; surgeon to the Aragon Mine, and local surgeon to the Chicago and Northwestern, and Wisconsin and Michigan railways; died in Clearwater, Fla., February 22.

Fred Phelps Stiles, M.D., Sparta, Wis.; Hahnemann Medical College, Chicago, 1880; aged 62; mayor of Sparta in 1900 and 1901, and from 1916 to 1918 a member of the Monroe County board; for twelve years director of the board of education; a member and president of the public library board; associate editor of the *Minneapolis Homeopathic Magazine;* died at his home, February 24, from angina pectoris.

Charles Mason Frissell, M.D., Wheeling, W. Va.; College of Physicians and Surgeons in the City of New York, 1882; aged 58; a Fellow of the American Medical Association; founder of the Wheeling Hospital Training School for Nurses; died at his home, February 12, from heart disease. At a meeting of the Ohio County Medical Society, February 22, resolutions of respect were adopted.

Julius Tillman Haney, M.D., Tuscumbia, Ala.; University of Alabama, Mobile, 1891; aged 59; formerly a Fellow of the American Medical Association; a member of the Medical Association of the State of Alabama, and secretary-treasurer of the Colbert County Medical Society; health officer of Colbert County; died in St. Vincent's Hospital, Tuscumbia, February 16.

Lacy Bebee Darling, M.D., Palmyra, N. Y.; Long Island College Hospital, Brooklyn, 1893; aged 54; a member of the Medical Society of the State of New York, and the Rochester Academy of Medicine; died at his home, February 19, from chronic intestinal nephritis.

William A. Kuhn, M.D., White Cloud, Mich.; Bennett Eclectic Medical College, Chicago, 1887; a member of the Michigan State Medical Society; for three terms president of the village of White Cloud, and for many years a member of the school board; died in Butterworth Hospital, Grand Rapids, Mich., February 19, from hypertrophy of the heart.

David Ramsey Hindman, M.D., Marion, Iowa; Homeopathic Medical College of Pennsylvania, Philadelphia, 1857; aged 85; a veteran of the Civil War; and in 1916 medical director of the G. A. R. Department of Iowa; a member of the city council of Marion in 1874, and for more than ten years city health physician; died at his home, February 25.

William James Greanelle, M.D., New York City; College of Physicians and Surgeons in the City of New York, 1893; aged 47; chief of staff of the Good Samaritan Dispensary, and assistant surgeon of the Twenty-Second Infantry, N. G., N. Y.; died at the Hitchcock Sanatorium, Crest View, Greenwich, N. Y., January 19, from cerebral hemorrhage.

W. Homer Hoopes, M.D., Newport, Pa.; College of Physicians and Surgeons, Baltimore, 1887; aged 55; a Fellow of the American Medical Association; also a druggist; was thrown from a sleigh, February 25, and dragged a consider-

able distance, suffering a fracture of the skull, and died from his injuries at his home a few hours later.

Raymond Alfred Clifford, M.D., Ypsilanti, Mich.; University of Michigan, Homeopathic Medical School, Ann Arbor, 1898; Jefferson Medical College, 1899; aged 44; a Fellow of the American Medical Association; who was operated on a few months ago for the removal of the spleen; died in the Clifton Springs (N. Y.) Sanitarium, March 2, from heart disease.

Clarence Samuel Allison, M.D., Pittsburgh; University of Pittsburgh, 1908; aged 32; a Fellow of the American Medical Association; bacteriologist at the William H. Singer Memorial Laboratories for Scientific Research, Northside, Pittsburgh; a member of the Society of American Bacteriologists; died in the Allegheny General Hospital, February 23.

George Francis Morris, M.D., New York City; Albany (N. Y.) Medical College, 1878; aged 65; a member of the Medical Society of the State of New York; for more than thirty years a medical examiner in the Department of Health of New York City; while crossing Broadway and Eighteenth Street, February 25, died from heart disease.

Edward Milton Richman, M.D., Newark, N. J.; University of Pennsylvania, Philadelphia, 1898; aged 45; a Fellow of the American Medical Association; founder of the Newark Private Hospital; at one time president of the visiting staff of St. James' Hospital, Newark; died in the Newark Private Hospital, March 2, from heart disease.

James Emmett Conn, M.D., Ida Grove, Iowa; State University of Iowa, Iowa City, 1892; aged 50; a Fellow of the American Medical Association, and a well-known surgeon of Iowa; founder of the Conn Hospital; and president of the Ida County Telephone Company; died at his home, March 2.

George Frederick Roehrig, M.D., Denver; Jefferson Medical College, 1890; aged 56; a Fellow of the American Medical Association; for twenty-five years local surgeon of the Burlington system, and a member of the staff of St. Luke's Hospital; died at his home, February 18, from angina pectoris.

William H. Humphrey, M.D., Yellow Springs, Ohio; Medical College of Ohio, Cincinnati, 1877; aged 65; a Fellow of the American Medical Association; also a druggist; president of the Greene County Medical Association for several terms; died at his home, February 18, from heart disease.

Augustus Selle Rose, M.D., Fayetteville, N. C.; University College of Medicine, Richmond, Va., 1901; aged 45; a Fellow of the American Medical Association; also a pharmacist; died in Highsmith Hospital, Fayetteville, February 15, two days after an operation for appendicitis.

Oscar W. Edmonds, M.D., Frankfort, Ind.; Starling Medical College, Columbus, Ohio, 1886; aged 56; formerly a member of the Indiana State Medical Association, and mayor of Frankfort since 1910; died, February 17, from tuberculosis.

John S. Booth, M.D., Montreal, Que.; McGill University, Montreal, 1889; was knocked down by a street-car and crushed beneath the wheels, while crossing the street in Montreal, February 19, and died soon after in the Western Hospital.

Edward Arbo Trommald, M.D., Los Angeles and Long Beach, Calif.; Cooper Medical College, San Francisco, 1896; aged 52; a specialist on diseases of the eye, ear, nose and throat; died, February 17, after a surgical operation.

William Allan MacFarlane, M.D., Chicago; University of Illinois, Chicago, 1890; aged 69; formerly a Fellow of the American Medical Association; died at his home, February 22, from acute parenchymatous nephritis.

Alfred L. S. Morand, M.D., Boston; Philadelphia College of Medicine and Surgery, 1858; aged 80; formerly acting assistant surgeon in the United States Army; died in the Chelsea (Mass.) Hospital, January 30.

Died in the Service

LIEUT. HENRY EDWARD HUNGERFORD, M.D., M. R. C., U. S. ARMY, 1872-1918

(*See The Journal, March 2, p. 641*)

Loyd L. McKinney, M.D., Burnsville, W. Va.; Kentucky School of Medicine, Louisville, 1893; aged 50; a Fellow of the American Medical Association; local surgeon of the Baltimore and Ohio system; died at his home, February 18, from typhoid fever.

Rachel B. Lain, M.D., Vallejo, Calif.; Hahnemann Medical College, Chicago, 1890; formerly a member of the Medical Society of the State of California; died at her home, February 18, from cerebral hemorrhage.

Alexander Vaughan McDonald, M.D., Fond du Lac, Wis.; University of Pennsylvania, Philadelphia, 1904; aged 42; died at the home of his wife's parents in Philadelphia, February 20, from pneumonia.

David M. Winton, M.D., Huntsville, Ala.; University of Alabama, Mobile, 1886; aged 56; a member of the Medical Association of the State of Alabama; died at his home, February 8, from pellagra.

John Binnie, M.D., Poynette, Wis.; Rush Medical College, 1875; aged 73; a Fellow of the American Medical Association; died in a hospital in Madison, Wis., February 16, after a surgical operation.

William Andrew McCornack, M.D., Oakland, Calif.; Cooper Medical College, San Francisco, 1873; New York University, New York City, 1880; aged 68; died at his home, February 9.

Millard F. Bailey, M.D., Wheeling and Warwood, W. Va.; University of Tennessee, Nashville, 1894; aged 56; died at his home in South Warwood, February 19, from cirrhosis of the liver.

Richard H. Moore, M.D., Groesbeck, Ohio; Medical College of Ohio, Cincinnati, 1862; aged 78; died at his old home in Mount Healthy, Ohio, February 17, from cerebral hemorrhage.

James Edward Ashburn, M.D., Portsmouth, Va., Leonard Medical School, Raleigh, N. C., 1895; aged 54; a colored practitioner; died at his home, February 17, from asthma.

Warren Hayes Smith, M.D., Nashville, Tenn.; Vanderbilt University, Nashville, 1915; aged 25; died at the home of his father in Nashville, February 12, from tuberculosis.

Frederick William Dykes, M.D., La Riviere, Manit.; Manitoba Medical College, Winnipeg, 1902; was burned to death in a fire which destroyed his house, February 13.

James Munday Mason, Hawesville, Ky. (license, Kentucky, sixteen years practice, 1896); aged 57; died at his home, February 15, from tuberculosis.

Andrew J. Simmonds, M.D., Hamilton, Ohio; Medical College of Ohio, Cincinnati, 1877; aged 67; died in Mercy Hospital, Hamilton, February 16.

John A. O'Brien, M.D., New York City; Texas Medical College, Galveston, 1876; aged 78; died at his home, February 17, from gastric ulcer.

John W. McFarland, M.D., Lebanon, Tenn.; University of Nashville, Tenn., 1868; aged 74; died at his home, December 20, from chronic dysentery.

John Henry Mullen, M.D., Lynn, Mass.; Harvard Medical School, 1900; aged 41; died in his office in Lynn, February 21, from heart disease.

Pierre E. Dansereau, M.D., Nashua, N. H.; Ecole de Medecine et de Chirurgie, Montreal, 1897; aged 71; died at his home, February 3.

William Henry, M.D., Harmon, Ill.; Rush Medical College, 1870; aged 78; died at his home, January 9, from cerebral hemorrhage.

Chalmers McCall Dickson, M.D., Lansing, Mich.; University of Michigan, Ann Arbor, 1880; died at his home, about February 12.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION

SWOBODA'S "CONSCIOUS EVOLUTION"

Quackery and Pseudo-Science of the Physical Culture Type

Quackery is always versatile. It seeks to turn to account the latest therapeutic fads or fashions. Especially noticeable has been the tendency in the past few years to capitalize the altogether admirable trend on the part of the public toward exercise. Numerous "systems" of exercise have been advertised under claims that seem to have been limited only by the vocabularies and imagination of those exploiting them. All of these "systems" being in their essentials both old and obvious, it has been necessary to create, as "selling points," elements either of mystery or of pseudo-science which are presented with all the plausibility known to the art of advertising.

For some years Alois P. Swoboda, once of Chicago and Washington, D. C., but now of New York City, has been selling a mail-order "course" in his "System of Physiological Exercise." Naturally, the cure and alleviation of disease is part and parcel of the "system," for this may always be counted on to widen the appeal and to provide the opportunity of using the ubiquitous testimonial whose commercial value is as large as its scientific value is small.

CONSCIOUS EVOLUTION

"Conscious Evolution" is Swoboda's shibboleth. Not that it means anything, but it sounds rather scientific and can be counted on to impress both the thoughtless and that still larger class of individuals who merely think they think. Swoboda is not the first to appreciate that a meaningless phrase, if couched in pseudo-technical language, paraded frequently and solemnly with a lavish use of italics, capitals and blackfaced type, may be counted on effectually to take the place of thought or common sense.

"Conscious Evolution" seems to have been a bright afterthought, for Swoboda's present advertising booklets differ chiefly from the earlier editions in the substitution of the phrase "Conscious Evolution" for what was formerly "Swoboda's System." According to Swoboda:

". . . Conscious Evolution. . . . IS BASED UPON A DISCOVERY IN THE CELLS OF THE BODY WHICH I MADE, AND WHICH HAS REVOLUTIONIZED THE EFFECT OF EXERCISE."

The curative claims made for the Swoboda System have undergone those changes from the "lie direct" to the "lie with circumstance," which in the past few years have characterized advertising through the whole field of quackery. Take for example, these claims made some years ago by Swoboda:

"It is the only natural, easy and speedy method for obtaining perfect health, physical development and elasticity of mind and body. ABSOLUTELY CURES CONSTIPATION, INDIGESTION, SLEEPLESSNESS, NERVOUS EXHAUSTION AND REVITALIZES THE WHOLE BODY." [Capitals in the original.—ED.]

THE LIE WITH CIRCUMSTANCE

No longer will you find these frank and open falsehoods in the Swoboda advertising; the method of today is less direct. Note for instance the latter day substitute for his older claim that his system "Absolutely Cures Constipation":

"Regarding constipation, I wish to say that I have treated not less than 37,000 people by my System for this ailment alone, and I have yet to learn of the first failure."

No longer do Swoboda's exercises "absolutely cure indigestion," but

". . . my System has been the greatest success in correcting, permanently, all forms of functional digestive troubles."

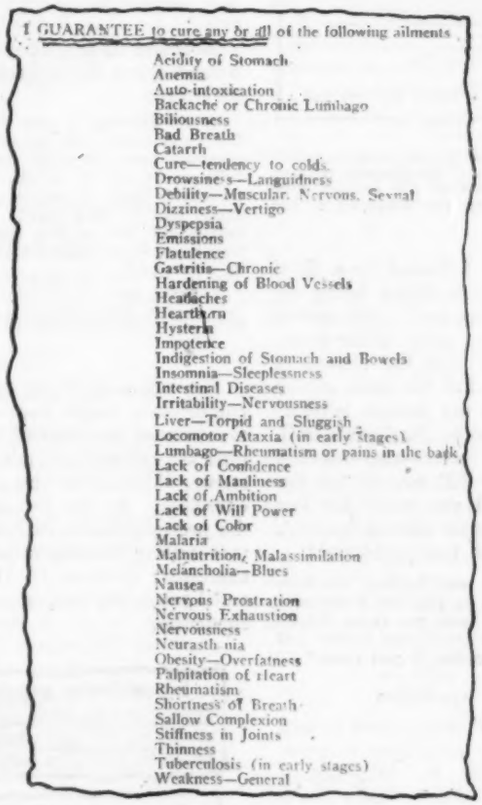
Before leaving the past it seems worth while, even if only for purposes of perspective, to quote a few of the older claims:

"*You can be physically just what you wish to be.* You can have reserve vitality for every emergency. *I guarantee it.*"—(*Literary Digest*, Jan. 31, 1914.)

"My book [advertising booklet] will give you a better understanding of yourself than you could obtain from a college course. The information which it imparts cannot be obtained elsewhere at any price."—(*Harper's Weekly*, March 6, 1915).

"The Swoboda System can make you tireless, improve your memory, intensify your will power, and make you physically just as you ought to be. I promise it."—(*Vanity Fair*, May, 1915).

"Swoboda, the world's greatest builder of men, has discovered a remarkable system of rejuvenating the cells . . ."—(*Literary Digest*, May 6, 1916.)


I GUARANTEE to cure any or all of the following ailments

Acidity of Stomach
Anemia
Auto-intoxication
Backache or Chronic Lumbago
Biliousness
Bad Breath
Catarrh
Cure—tendency to colds.
Drowsiness—Languidness
Debility—Muscular, Nervous, Sexual
Dizziness—Vertigo
Dyspepsia
Emissions
Flatulence
Gastritis—Chronic
Hardening of Blood Vessels
Headaches
Heartburn
Hysteria
Impotence
Indigestion of Stomach and Bowels
Insomnia—Sleeplessness
Intestinal Diseases
Irritability—Nervousness
Liver—Torpid and Sluggish
Locomotor Ataxia (in early stages)
Lumbago—Rheumatism or pains in the back
Lack of Confidence
Lack of Manliness
Lack of Ambition
Lack of Will Power
Lack of Color
Malaria
Malnutrition, Malassimilation
Melancholia—Blues
Nausea
Nervous Prostration
Nervous Exhaustion
Nervousness
Neurasthenia
Obesity—Overfatness
Palpitation of Heart
Rheumatism
Shortness of Breath
Sallow Complexion
Stiffness in Joints
Thinness
Tuberculosis (in early stages)
Weakness—General

Before Swoboda had developed his bump of caution his claims were of the "lie direct" type. Above is a photographic reproduction (reduced) from a booklet sent out some time ago as part of the "come-on" literature of the Swoboda "System." This long list of ailments which Swoboda "guaranteed" to "cure" no longer appears in the present advertising matter.

It is not to be inferred from the matter quoted that Swoboda's claims have become more truthful; they are merely more cautious. Take for example the following quotations, describing Swoboda's "System," that appeared in a half-page advertisement of *Collier's* as recently as March 2, 1918, under the screaming headlines: "How to be a Giant in Energy, Health and Mind":

"A unique, new and wonderful discovery that furnishes the body and brain cells with a degree of energy that surpasses imagination."

"This new system . . . has already resulted in the complete recovery of thousands upon thousands of 'extreme' cases . . ."

". . . it accomplishes seemingly impossible results entirely without the use of . . . exercises . . ."

". . . this system does its revolutionizing work without asking you to do anything you do not like and neither does it ask you to give up anything you do like."

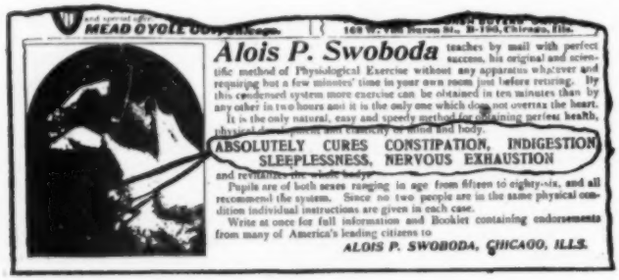
"When we lack energy and power, when we are listless, when we haven't smashing, driving power back of our thoughts and actions, when we must force ourselves to meet our daily business and social obligations, when we are sick or ailing . . . it is simply because certain cells are weak and inactive or totally dead. . . . These facts . . . were discovered by Alois P. Swoboda and resulted in his marvelous system of cell-culture."

ANSWERING THE ADVERTISEMENT

Having read the very plausible advertisements—and Swoboda evidently spends a good deal of money not only for the space of his advertisements, but also for the "copy"—one writes to Swoboda and receives in return a form-letter so prepared as to simulate an individual communication. In this letter Swoboda says that he is enclosing his book "explaining the human body"—a mere bagatelle—and giving complete information regarding his "system." The book is entitled "Conscious Evolution," and is practically identical

with a book sent out earlier by him entitled "Evolutionary Exercise." About one half of the book is devoted to testimonials. The letter explains further that Swoboda's "course" is given in six lessons with one week's interval between lessons. The charge "is always the same, namely, $20 for the complete course." Attention is also called to the enclosed diagnosis blank which the recipient is asked to fill out and send with the twenty dollars. Not that Swoboda calls it a diagnosis blank; "Health Statement" is the more cautious appellation.

If the first letter is not answered, a second comes in due time again urging that $20 be sent and enclosing another diagnosis blank. This letter, if ignored, is followed by a third and it by a fourth. Should the fourth letter bring no response, a period of a few months elapses and a fifth comes marked "personal." In the fifth letter, in spite of the statement reiterated in the first four letters that the charge is never less than $20, this letter offers for $10 the same course "for which I have asked $20 of you in my former letters." Should this letter also fail to bring grist to Swoboda's mill, another period elapses and the sixth letter—also marked "Personal"—arrives offering the regular $20 course "on the following terms: $5 in advance, and $1 per week for five weeks. . . ." Should this persuasive letter also be ignored, the seventh "personal" epistle comes, with this postscript:



A reduced reproduction of one of Swoboda's old advertisements. No longer does Swoboda claim to "absolutely cure" constipation, indigestion, etc.; his claims in this direction are now of the indirect type in which, through testimonials, the same ideas are conveyed to the public.

"P. S.—Just as a secret between ourselves, and because we have corresponded for such a long time, and to prove to you that I am more than willing to meet you half way, you may have my entire $20.00 course, complete, for only $5.00, provided you send your money and health statement by return mail. Borrow the money if you must."

SOME SWOBODA QUESTIONS ARE ANSWERED

Two of Swoboda's "Health Statements" were filled in and sent to him with the required fee. They purported to come from two individuals, Mr. A and and Mr. B. In order to appraise Swoboda's diagnostic abilities, these blanks were so filled that wherever Mr. A answered a question in the affirmative Mr. B answered it in the negative. To give our readers a clear idea of the character of the questions, we reproduce a few of them and the replies sent in by the hypothetical Messrs. A and B:

QUESTIONS	MR. A	MR. B
Is it necessary to drive yourself into performing your duties?	*No*	*Yes*
Are you inclined to be languid?	*Yes*	*No*
Are you inclined to be listless?	*Yes*	*No*
Are you inclined to be lazy?	*No*	*Yes*
Are you inclined to be weak?	*No*	*Yes*
Are you inclined to be tired?	*Yes*	*No*
Are you ambitious?	*Yes*	*No*
Are you full of vitality?	*Yes*	*No*
Do you desire greater mental and physical energy?	*Yes*	*No*
Do you fear to meet and talk to people?	*No*	*Yes*
Are you nervous when in a crowd?	*No*	*Yes*
Are you mentally sluggish?	*No*	*Yes*
Is your memory poor?	*No*	*Yes*
Are you too thin?	*No*	*Yes*
Are you drowsy after your meals?	*No*	*Yes*
Are you generally run down?	*No*	*Yes*
Do people tell you that you look the picture of health?	*Yes*	*No*
Are your lips red and full of blood?	*Yes*	*No*
Have you a desire for food on arising?	*Yes*	*No*
Do you have distress after eating?	*No*	*Yes*
Do you get dizzy?	*No*	*Yes*
Have you pimples on face and body?	*No*	*Yes*
Headaches?	*No*	*Yes*
Nauseated?	*No*	*Yes*
Is your tongue coated?	*No*	*Yes*
Breath bad?	*No*	*Yes*
Are you nervous?	*No*	*Yes*
Does your heart palpitate long after any excitement?	*No*	*Yes*
Do you feel weak and exhausted after excitement?	*No*	*Yes*
Are you impatient?	*No*	*Yes*
Do you feel refreshed upon arising?	*Yes*	*No*
Do you have catarrh of the nose and throat?	*No*	*Yes*
Do you urinate frequently?	*No*	*Yes*
Are you troubled with rheumatism?	*No*	*Yes*
Is there any tendency to tuberculosis in your family?	*No*	*Yes*

SWOBODA'S DIAGNOSIS

Mr. A and Mr. B each received a letter acknowledging the receipt of the money for the course and stating that before finishing the letter Swoboda would give his "opinion of your condition." According to Swoboda, here is what ailed Mr. A:

"Your trouble is due to your inability to eliminate poisons from your system sufficiently rapid. This is due to inactivity of those nerve centers which preside over this function. Consequently there is an accumulation of waste and poison in your blood, which, in turn, weakens the tissues (both muscular and nervous) of your body, thus decreasing your nervous force, and deranging at times all the functions of the body."

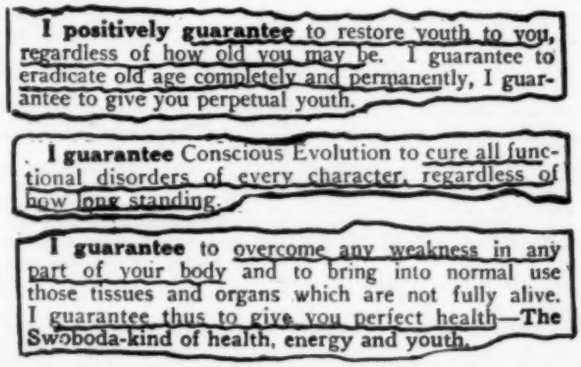
Needless to say, according to Swoboda, his "system" would correct these various conditions. Mr. B's condition was thus diagnosed:

"Your difficulty is due to periodic congestions of the cells of your body and brain. By disciplining these cells and rendering the entire organism more alive, not only will you cease to be congested, but the cells will be able to develop more energy for you, and you will become thoroughly well. It will be impossible for you to feel depressed, melancholy, blue or discouraged. On the other hand you will feel hopeful, enthusiastic, full of life, and happy, and all the difficulties which you may have, in consequence of life being inferior within your body, will be overcome."

This happy condition was to be produced, of course, by Mr. Swoboda's "System."

THE SWOBODA "COURSE"

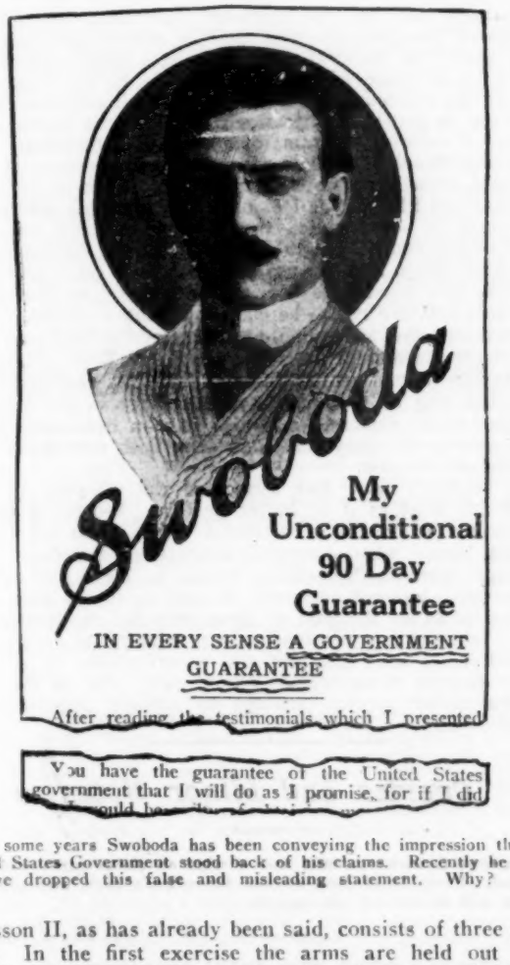
The "Course" itself consists of six lessons. Each lesson comprises a single page of paper (letter size) on which are typewritten instructions for certain exercises. On the margins are somewhat crude cuts, obviously put in with a rubber stamp, illustrating the positions assumed in the respective exercises. As the lessons bear the copyright date of 1901, the presumption is that they are the same as those Swoboda was selling seventeen years ago. Lesson I comprises five exercises; Lessons II, III, IV, and V, three exercises each and Lesson VI, two exercises. The exercises themselves are elementary.


I positively guarantee to restore youth to you, regardless of how old you may be. I guarantee to eradicate old age completely and permanently, I guarantee to give you perpetual youth.
I guarantee Conscious Evolution to cure all functional disorders of every character, regardless of how long standing.
I guarantee to overcome any weakness in any part of your body and to bring into normal use those tissues and organs which are not fully alive. I guarantee thus to give you perfect health—The Swoboda-kind of health, energy and youth.

Photographic reproductions (reduced) from Swoboda's present-day advertising. Evidently Ponce de Leon looked in the wrong place for the fountain of youth!

The "Lessons" received by Mr. A and Mr. B *were identical!* The first exercise in Lesson I consists in standing with the arms held close to the body and then flexing the forearms alternately. Mr. A was instructed to do this sixteen times and Mr. B to do it twenty times. The second exercise of the same lesson is performed by holding out the arms horizontally and laterally, palms up, and then flexing the forearm. Mr. A. was to do this ten times; Mr. B, fifteen times. In the third exercise of the first lesson the arms are extended laterally, palms forward, then brought forward until the

palms meet. Mr. A was told to do this fifteen times and Mr. B twenty times. The fourth and fifth exercises of the first lesson are equally simple, and Mr. A and Mr. B were each to perform them exactly the same number of times.


Swoboda
My Unconditional 90 Day Guarantee
IN EVERY SENSE A GOVERNMENT GUARANTEE
After reading the testimonials which I presented
You have the guarantee of the United States government that I will do as I promise, for if I did

For some years Swoboda has been conveying the impression that the United States Government stood back of his claims. Recently he seems to have dropped this false and misleading statement. Why?

Lesson II, as has already been said, consists of three exercises. In the first exercise the arms are held out horizontally and laterally with the palms down and the hands tightly shut, then the wrists are bent up and down, slowly and rigidly. In the second exercise the arms are held out laterally and horizontally with the palms down, then with the muscles of the shoulders and upper back rigid the shoulder blades are drawn close together and the arms down to the sides, keeping the muscles rigid on the downward motion. In the last exercise of this lesson the arms are extended laterally and horizontally, palms up, the muscles of the arms and shoulders made rigid and the arms then drawn up straight above the shoulders, keeping the muscles rigid on the upward motion only.

Each of the three exercises of Lesson II was to be performed twelve times by Mr. A and sixteen times by Mr. B. All of the rest of the exercises in Lessons III, IV, V and VI, respectively, were to be performed *exactly the same number of times* by Messrs. A and B!

An analysis shows, then, that if you are inclined to be languid, listless, tired and ambitious, as was Mr. A (*vide* "Health Statement") and wish to overcome this condition you should flex your arms sixteen times. Should you, however, be mentally sluggish, of poor memory, too thin, drowsy after your meals and generally rundown, as was Mr. B (also *vide* "Health Statement"), the arms should be flexed twenty times. Should you have a desire for food on arising; should you have lips that are red and full of blood and should people tell you that you look the picture of health, then flex the forearm ten times. But should you have distress after eating, get dizzy, have pimples on face and body, headaches, nausea, coated tongue and bad breath, then flex the forearm fifteen times. Should you suffer from catarrh of the nose and throat, urinate frequently, be troubled with rheumatism and have a family tendency to tuberculosis, then bend the wrists up and down sixteen times as against twelve times if you are not troubled in any such way.

If Mr. Swoboda is not too busy taking in the easy money obtained by imparting his secret of the "discovery in the cells"—should it be "sells"?—he must get a vast amount of amusement out of his diagnoses and the prescriptions he offers therefor. We surmise, however, that a sense of humor would long ago have unfitted Mr. Swoboda for his business.

THE "DISCOVERY IN THE CELLS"

What, one may ask, constitutes the wonderful "discovery in the cells of the body" which Swoboda claims to have made and "which has revolutionized the effect of exercises"? What is the "principle" of the "Swoboda System"? Let the booklet answer:

> "This principle is the scientific antagonization of the energies and forces residing in the positive and negative cells of the brain, nervous system and muscles."

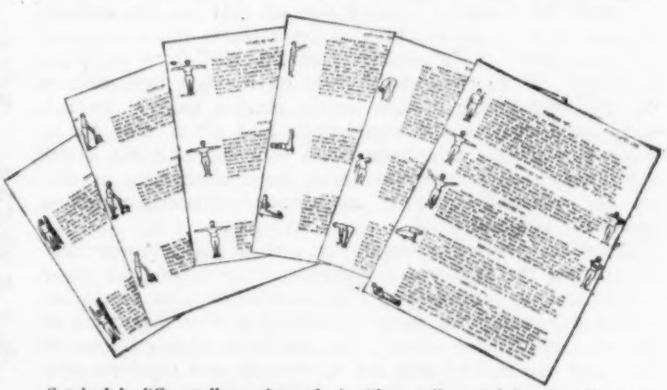
This is a little vague, but one must not expect clarity in "come-on" literature. After the money has been sent for the complete course the first "lesson" clears up the mystery. The sum and substance of Swoboda's "System" is that of "using one muscle to resist or antagonize another." For example, in the first exercise of the first lesson, which consists of nothing more unusual than flexing the forearm on the arm, he tells his "pupils"—or "patients"—to attempt to contract the triceps muscles at the same time that the biceps are contracted for the purpose of producing flexion. This in brief is what Swoboda has labeled "Conscious Evolution" or the "Swoboda System." As one of the letters puts it:

> ". . . the antagonism of the muscles is, in reality, more than 95 per cent. of the potential element of my system."

SUMMARY

It is hardly necessary to tell physicians that there is nothing new in the principle of resistive exercises. Such "tension exercises" or "static exercises" have been used for years and more than a third of a century ago the Schotts of Nauheim were regularly employing "self-restraining gymnastics" (*Selb-hemmungs-gymnastik*) in their treatment of chronic diseases of the heart.

That the exercises may be of value in selected cases is readily admitted, but it is obvious that Swoboda is neither



Swoboda's "Course" consists of six "lessons" containing in all nineteen exercises. The "lessons" are typewritten and crudely illustrated by means of figures obviously put in with a rubber stamp. Above is a greatly reduced facsimile of the "Course"—price $20, $10 or $5, according to the ease with which you part with your money.

competent to determine, nor, even if he were competent, capable, under his mail-order plan, of deciding in what cases the exercises may be harmful. The claim that Swoboda has made that his "instruction is entirely individual" and "just as personal as if you were my only pupil," is pure buncombe.

The objection to Swoboda's business lies, not in what he sells, but in the way he sells it. As a commercial undertaking, it would be impossible to sell the typewritten instructions for the simple exercises which constitute Swoboda's "course"

if the public knew what it was going to get for its money. The reason Swoboda is able to purchase high-priced space in magazines to exploit his "System" is that he deceives the public into believing that he offers something not to be obtained elsewhere.

When Swoboda says that he will "positively guarantee to restore youth to you, regardless of how old you may be," he falsifies. When he says that he will "guarantee to eradicate old age completely and permanently" and "give you perpetual youth," he falsifies again. When Swoboda says that he will "guarantee Conscious Evolution to cure all functional disorders of every character, regardless of how long standing," he talks like a quack, and when he says that he will "guarantee to overcome any weakness in any part of your body" and "to give you perfect health," he is a quack.

In brief, the case against the so-called Swoboda System may be summed up by saying that "Conscious Evolution" is a meaningless phrase whose apparent use is to obtain money by misleading and deceiving the public; that the Swoboda exercises are neither new nor original; that the entire Swoboda scheme is quackery of the "physical culture" type.

Correspondence

THAT TAX ON OLEOMARGARIN

To the Editor:—Kindly permit me a brief space to say a word concerning "oleo." I have been a reader of The Journal for twenty-five years and have not seen anything in its pages which has so stirred my blood as your editorial, January 19. You say: "Without milk in the kitchen, the American housewife would be confronted with unanticipated difficulties in the technic of food preparation. For this reason the dairyman is urged to speed up the production of milk." The housewife you admonish to be conservative in the use of milk in order that our children may be properly nourished. The New York *Times,* from which you quote as against the tax of 10 cents per pound on colored oleomargarin is probably paid a good sum, as are many others, for espousing the cause of the butter substitute.

Again you say: "If the legitimate substitutes for butter were allowed to come into the general use for which they are qualified, not only would a reduction of living expenses become possible thereby, but also the price of milk and cream ought to be decreased."

Listen, Mr. Editor. Can you not see that you are striking a direct blow at the nutrition of the nation? Have you read and considered the experiments of Dr. McCollum at Johns Hopkins? Have you ever thought on the fact that milk is the cheapest article of diet on the market today? Indeed, you would remove the restrictions and allow oleo to be colored so closely that none but a connoisseur could detect the difference. You would assist these charlatans in displacing milk and butter by an inferior substitute, and thus starve the innocent child.

What do you know about the cost of milk production? Why select the farmer and dairyman from among all other classes and say you have no right to advance your prices for milk and butter, when every other food product has gone to almost a prohibitive price? Do you know that millions of our cows are milked and fed by women and children who are practically donating their services? Were these paid a fair wage, thousands of dairymen would go out of business.

We as physicians make a lively stir about ridding the country of medical quacks and patent nostrums, and rightly so. Then why should we open our American medical journal to fight against milk and butter? It looks to me as though there is "something rotten in Denmark." If a straw vote were taken among the physicians of America, oleo would stand a poor showing. Of all organizations the medical profession should be the last to abet the cause of so gigantic and fraudulent a substitute for our most essential food products.

While I am not in the dairy business, further than to supply our own wants, selling neither milk nor butter, as I never have and never expect to, yet I was raised on a farm, and am a subscriber to six or eight of the best farm and dairy papers. I am in a position to know something of which I am speaking.

Louis J. Belknap, M.D., San Jose, Calif.

[Comment.—If our correspondent has read the editorial columns of The Journal with care he cannot have failed to notice that The Journal has again and again referred to the important place which milk deserves in the dietary of man. It has pointed out that milk contains ingredients which are unique in that their physiologic value cannot be measured in terms of calories or grams of protein, fat and sugar. The added importance of milk is expressed in its content of lime salts and growth promoting substances, which children in particular are likely to fail to obtain in adequate abundance when milk is not supplied to them in sufficient amounts. The Journal cannot, however, agree with our correspondent in his implication that the use of oleo fats or other naturally occurring oils constitutes a crime or menace, or that these edible products are not to be classed as human foods. They need not, and obviously should not, exclude milk, butter and cream from the diet in the sense which has been intimated; yet they can be and are wholesome, digestible and nutritious fats. Milk and its products have this place in the dietary; the other edible fats and oils also have a defensible place in the ration. To deny this is to deny both experience and scientific observation.

The Journal never has advocated the coloring of any natural fat, whether it be butter or oleo. Indeed, it would welcome the exclusion of artificial colors from all foods, including butter, when deception is practiced thereby.

Perhaps there is "something rotten in Denmark" which The Journal has not detected. It may be in the nature of blind prejudice on the part of those who fail to distinguish between fact and fancy in food values; who fail to read fairly or intelligently and interpret the contributions of science and the dictates of experience accordingly; who, in the heat of unwarranted passion attempt to replace argument by innuendo.—Ed.]

Queries and Minor Notes

Anonymous Communications and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

METRIC SYSTEM FOR ARMY PRESCRIPTIONS

To the Editor:—Can you inform me whether the metric system is to be used exclusively in the Medical Reserve Corps as it is in the regular Medical Corps of the Army? If it is to be so used, it would appear advisable that the metric system should be introduced into the civil hospitals that have undertaken to train graduates for the service.

Torald Sollmann, M.D., Cleveland.

Answer.—According to the Manual for the Medical Department, Section 240: "All prescriptions will be written in the metric system." This is the form of the Army prescription blank:

Station ..... *191....*
For .....
℞ Gms. or Cc.
|
.....
No. ..... *Surgeon, U. S. A.*

On the back of each pad of prescription blanks is a table for converting the apothecaries, to the metric system. When prescriptions are written according to the apothecaries' system, it is customary for sergeants in charge of the prescription department of the dispensary to transpose the figures to the metric system.

ALLOWABLE DEDUCTIONS ON INCOME TAX RETURNS

To the Editor:—In The Journal, January 26, page 259, you answer a query concerning allowable deductions on income tax returns. The special question which I am interested in was the second clause of your answer and especially under sub-division "A" which reads: "If a physician has his office in his home, setting aside a separate room or rooms for that purpose: (A) If he or his wife owns the home, he may deduct as a necessary expense in his profession the reasonable rental value of such room or rooms occupied by him solely in connec-

tion with his profession." These conditions describe my own case. I myself own the house which I occupy, and my office room is exclusively for my business purposes. I have understood that the ruling had been up to this time that a physician could not make deduction for such conditions as we have just described; but after reading this ruling, I went to the local revenue office and asked if this were true, but the Deputy Collector asserted that it was not and stated most positively that no such deduction would be allowed.

May I ask, therefore, if you are sure that your statements in the printed reply are correct, and if so, would you mind giving, if possible, the source of the opinion, and the date of the ruling, in order that I may present such data to my local revenue collector? If you can give me this definite information I should appreciate it and will thank you for it in advance. The time is short as our final reports must be in before April 1.

CHARLES S. BENNETT, M.D., Newark, N. J.

ANSWER.—The foregoing letter was submitted to the Collector of Internal Revenue in Chicago, who states that the decision quoted in our correspondent's letter is correct. This means that a part of our answer—that under "(*a*)" in paragraph 2—published in THE JOURNAL of January 26, was wrong. The complete paragraph in the answer was:

2. The department has ruled on this subject that expenses of an office of a physician maintained separately from his residence, including amounts paid to employees for care of the office, telephone service, etc., can be deducted as expense in his profession. If a physician has his office in his home, setting aside a separate room or rooms for that purpose: (a) If he or his wife owns the home, he may deduct as a necessary expense in his profession the reasonable rental value of such room or rooms occupied by him solely in connection with his profession. (*b*) If he rents his home, he may deduct such proportionate part of the entire rent paid as the space occupied by him exclusively in connection with his profession bears to the entire premises rented.

The logic of this decision is apparent after a little thought. The following paragraphs are of special interest to physicians at the present time. They are quoted from the Income Tax Primer, prepared by the Bureau of Internal Revenue of the Treasury Department.

A physician may claim as deductions the cost of medicines and medical supplies used by him in the practice of his profession, expenses paid in the operation and repair of an automobile used in making professional calls, dues to medical societies and subscriptions to medical journals, the expenses of attending medical conventions, the rent paid for office rooms and the hire of office assistants, the cost of the fuel, light, water, telephone, etc., used in such office rooms. Amounts expended for books, medical supplies, and surgical instruments of a permanent character are not allowable as deductions.

If a physician . . . rents a home and uses a portion of same for professional or business purposes, may any portion of the rent paid for that home be claimed as a business expense?

Yes, the proportion of the rent paid which is properly chargeable to the number of rooms so used may be claimed as a deduction.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

COLORADO: Denver, April 2. Sec., Dr. David A. Strickler, 612 Empire Bldg., Denver.

DISTRICT OF COLUMBIA: Washington, April 9-11. Sec., Dr. Edgar P. Copeland, The Rockingham, Washington.

IDAHO: Pocatello, April 2-3. Sec., Dr. Ray H. Fisher, Rigby.

ILLINOIS: Chicago, March 25-26. Mr. F. C. Dodds, Supt. of Registration, Springfield.

MINNESOTA: Minneapolis, April 2-4. Sec., Dr. Thomas McDavitt, 741 Lowry Bldg., St. Paul.

MISSOURI: St. Louis, March 19-21. Sec., Dr. George H. Jones, Capitol Bldg., Jefferson City.

MONTANA: Helena, April 2. Sec., Dr. S. A. Cooney, 205 Power Bldg., Helena.

NEW MEXICO: Santa Fe, April 8. Sec., Dr. R. K. McClanahan, East Las Vegas.

OKLAHOMA: Oklahoma City, April 9-10. Sec., Dr. J. J. Williams, Weatherford.

RHODE ISLAND: Providence, April 4-5. Sec., Dr. B. U. Richards, State House, Providence.

UTAH: Salt Lake City, April 1-2. Sec., Dr. G. F. Harding, 407 Templeton Bldg., Salt Lake City.

Monterey, Mexico, Medical School

Physicians claiming graduation from a medical school at Monterey, Mexico, have applied for licenses before various state licensing boards. Inquiry in regard to this college brings the following reply from the consul general, P. C. Hanna, now at San Antonio, Texas, who states that he has resided eighteen years in Monterey:

I have never heard of what might be properly called a medical school in Monterey. It is true, however, that some young men studied medicine under the direction of the State University, and the old Gonzales Hospital was the headquarters of the class studying medicine. I know of no institution having been organized recently that could properly be recognized as a medical college.

Book Notices

THE CONDUCTION OF THE NERVOUS IMPULSE. By Keith Lucas, Sc.D., F.R.S., Fellow and Lecturer of Trinity College, Cambridge. Revised by E. D. Adrian, M.B., M.R.C.P. Cloth. Price, $1.50 net. Pp. 102, with 22 illustrations. New York: Longmans, Green & Co., 1917.

In the first chapter of "The Integrative Action of the Nervous System," Sherrington enumerated eleven salient "characteristic differences between conduction in nerve trunks and conduction in reflex arcs" (the central nervous system). In the present volume, Lucas has made an attempt to gain an insight into conduction in the central nervous system by an analysis of analogous phenomena in conduction along peripheral nerves with the hope that the remarkable and puzzling phenomena so characteristic of the activity in the complex central nervous system might find a ready explanation in terms of what can be learned from a study of the phenomena occurring during conduction along the nerve of a more simple nerve-muscle preparation. In Lucas' own words: "The question I wish to discuss is not why the nerve conducts, but how it conducts, and how far the phenomena of conduction in a peripheral nerve may be made the basis of the understanding of conduction in the central nervous system."

Having outlined the general problem, he indicates (Chapter II) the principle of the method used as a measure of the intensity of the nervous impulse. This is followed by a discussion, fortified by experimental proof, of the "all or non response" of nerve fiber—invariably the result of a minimal stimulus (Chapter III). Finding that the intensity of the nerve impulse after passing through a narcotized area ("region of decrement") recovers in full its original intensity when it emerges into a tract of normal nerve (Chapter IV), he discusses the nature of the nervous impulse, which, he decides, chiefly on the basis of Tashiro's work, depends for its progression on a local supply of energy from a source distributed along the nerve, and for its conduction, not on the intensity with which it is initiated, but on the conditions it encounters during its progression. Chapters VI to VIII deal with the alterations of nerve by the passage of a nervous impulse, namely, the "refractory period," during which the nerve loses its excitability and conductivity, and the "supernormal period," which follows the period of recovery from the "refractory period," characterized by an increased excitability and conductivity of the nerve.

Having established these fundamental phenomena of nerve fibers when thrown into activity, the author discusses "summation" of stimuli in central and peripheral tissues, develops the problem most interestingly, and ends by adducing experimental proof for the view that "summation" in peripheral tissue depends on the development of the supernormal period, though he is not satisfied that the question is absolutely settled (Chapters X and XI). In a similar manner he attempts, by analyzing the phenomenon of "apparent inhibition" as it occurs in peripheral tissues, to throw light on "inhibition as a characteristic phenomenon of the central nervous system (Chapter XII). He finds that this inhibition relates, among other things, to the refractory period and to the fact that the fatigued junctional tissues conduct with a decrement.

The last chapter (Chapter XIII), by Adrian, reviews the facts that the two "most important phenomena of reflex conduction, namely, summation and inhibition, can be reproduced in the isolated muscle nerve preparation, and that in this case they depend on a very simple mechanism." Based on the knowledge gained from a study of these phenomena, he discusses the probable explanation of irreversibility of direction

of the nerve impulse, fatigue, after discharge, and expresses the hope that further work on the simple nerve muscle preparation will reveal the mechanism involved in these phenomena so characteristic of the central nervous system.

The lucid presentation of this difficult subject is most gratifying. The chapters are printed, on the whole, as delivered in the form of lectures in memory of Page May at University College, London, in the spring of 1914. The untimely death of Keith Lucas as the result of an aeroplane accident left the manuscript in the hands of his co-worker, Dr. Adrian, who revised the text, added the last chapter, and who, it is to be hoped, will continue the magnificent work of his associate and teacher.

Injuries of the Face and Jaw and Their Repair, and the Treatment of Fractured Jaws. By P. Martinier, Professor to the Dental School of Paris, and Dr. G. Lemerle, Professor to the Dental School of Paris. Translated by H. Lawson Whale, M.D., F.R.C.S., Captain R. A. M. C. T., The Oral Department No. 83 General Hospital, B. E. F. Cloth. Price, $1.75. Pp. 345, with 168 illustrations. New York: William Wood & Co., 1917.

In his foreword the translator says, "It may be justly claimed that during the war no branch of surgery has emerged from oblivion and neglect to a position of insistent importance to a greater extent than facial restoration." This statement is well recognized by the oral surgeon and by some general surgeons. This book is the most comprehensive single work on oral and facial prosthesis that has yet appeared. As the title indicates, it deals with immediate prosthesis for the prevention of disfigurement due to injuries, or following deliberate surgical procedures, such as resection of the mandible or maxilla; also to remote prosthesis for the purpose of overcoming disfigurements that have resulted from cicatricial contraction prior to the insertion of permanent prosthesis; nasal prosthesis to cure depressions due to injury or syphilis, and nasal prosthesis for complete restoration, when lost by disease or otherwise. Plastic prosthesis, such as paraffin, very rightly is not held in high favor by the author. Obturators for cleft palate receive due consideration, as does the artificial larynx. Fractures of the mandible and maxilla are quite fully discussed. The authors seem to have overlooked the fact that certain methods, given priority in their book, were fully described in American literature somewhat earlier than the dates they have recorded. The book is fully illustrated.

Medicolegal

When One's Former Physician Is His Medical Examiner—Evidence

(McGinty vs. Brotherhood of Railway Trainmen (Wis.), 164 N. W. R. 249)

The Supreme Court of Wisconsin says that this action was brought by the plaintiff, as beneficiary, on a policy of insurance, issued by the defendant, on the life of her son. It appeared that the examining physician, a Dr. O'Neill, had treated the insured as a patient in 1911 until July, but that he was not a patient in September, at the time of making the application for the insurance. Dr. O'Neill had also made out the certificate of the death of the father of the insured. If, as contended by the defendant, either the father died from cancer, or the insured had syphilis at the time of making the application, the warranties in the application were false, and avoided the contract. If made by the connivance of the medical examiner with the insured, the defendant was clearly entitled to show such a situation. Although the provisions of Section 4202s, Wisconsin Statutes, make any such report by the medical examiner binding on an insurance company, even if applicable to an insurer like the defendant, the situation would clearly come within the proviso of that section, that there shall be no such estoppel if the report was procured by or through the fraud or deceit of the insured.

It being an uncontradicted fact that at the time of the making of the application for the insurance the relationship of physician and patient no longer existed between Dr. O'Neill and the insured, and that the visit to the physician at that time was not for the purpose of treatment, the privilege of Section 4075, Wisconsin Statutes, making information obtained by a physician for the purpose of treating a patient confidential, did not apply. The insured, having of his own volition obtained, at a time when he was not a patient, the statement of a physician who then had, as the patient was bound to know, knowledge as to his former health and condition, and then having joined with such physician in making material representations to the defendant, on which the policy in suit was issued to him, must be held to have effectually waived any provision of the statute in question, if it were otherwise applicable. He was in effect requesting the physician to testify to such assertions, and could no more shut out legitimate and proper examination, made to determine whether or not the particular assertions were true, than if the physician were called on his behalf as a witness and asked on direct examination the same questions as to whether or not, at the time he made the certificate attached to the application, the statements therein contained, to the effect that the insured was in good health and had not had any venereal disease, were false. That the knowledge as to the existence of any such disease might have been obtained when the relationship of physician and patient did exist did not affect the situation at the time the insured obtained the certificate of the physician, any more than if the insured at such a time first informed the medical examiner of the existence of any disease so concealed by them both from the defendant. Moreover, the insured having voluntarily published by his application the fact that he had been to Dr. O'Neill for treatment and that such treatment had been for the disease called la grippe, this was a waiver of any privilege, and the doctor should have been permitted, therefore, to answer questions, if the effect thereof would tend to negative the statement that such treatment had been for la grippe. But correspondence passed between Dr. O'Neill and the defendant was properly excluded, on account of being the declarations of the physician to the insurance company, in no wise binding on the plaintiff beneficiary, which could not be received as independent evidence of any fact.

The certificate of death of the father of the insured, made by Dr. O'Neill, and stating that the cause of death was an injury to the head, was but prima facie evidence and subject to attack, and the maker should have been permitted to testify, if such was the fact, that the injury referred to was a cancer.

Requirements of Physicians Issuing Prescriptions for Opium

(United States vs. Reynolds (U. S.), 244 Fed. R. 991)

The United States District Court in Montana says that the Harrison Narcotic Law (act of Dec. 17, 1914) requires nothing of physicians issuing prescriptions for opium save that the physicians be registered and that the prescriptions be signed by the physicians and dated as of the day of such signing. By giving a prescription, the physician does not "dispense" opium, in the sense of the word as used in this law. As therein used, "dispense" relates to actual delivery of the drug by the physician to the patient, from the former's office supply, generally, though not excluding other actual delivery. As the defendant was not charged with having failed so to register or so to sign the prescription, he was not accused of any offense or violation of this law. In this law there is nothing prescribing quantities or forbidding prescriptions for the drug in any quantity. Any attempt to find it therein by construction or implication does violence to the elementary principle that, when legislatures undertake to create offenses, it must be by language clear and definite, making it obvious to ordinary intelligence that by certain conduct an offense, and the offense denounced by statute, is committed. Hence such construction or implication is never permitted. The defendant, charged with giving a prescription for and so dispensing pounds of opium, was not charged with any offense known to the law. Demurrer to the indictment is sustained.

Society Proceedings

COMING MEETINGS

AMERICAN MEDICAL ASSOCIATION, CHICAGO, JUNE 10-14.

Alabama State Medical Association, Birmingham, April 16.
Am. Assn. of Pathologists and Bacteriologists, Philadelphia, Mar. 29-30.
American Orthopedic Association, Washington, D. C., April 22-23.
Arizona Medical Association, Phoenix, April 25-26.
Arkansas Medical Society, Jonesboro, May 7-9.
Association of American Physicians, Atlantic City, May 7-8.
California State Medical Society, Del Monte, April 16-18.
Georgia State Medical Association, Savannah, April 17-19.
Iowa State Medical Society, Fort Dodge, May 8-10.
Kansas Medical Society, Kansas City, May 1-3.
Louisiana State Medical Society, New Orleans, April, 16-18.
Maryland Medical and Chir. Faculty of Baltimore, April 23-25.
Michigan State Medical Society, Battle Creek, May 7-9.
Missouri State Medical Association, Jefferson City, May 6-8.
Nebraska State Medical Association, Omaha, May 7-9.
North Carolina State Medical Society, Pinehurst, April 16-18.
South Carolina Medical Association, Aiken, April 16-18.
Tennessee State Medical Association, Memphis, April 9-11.

CHICAGO MEDICAL SOCIETY

Meeting held March 6, 1918

DR. CHARLES E. HUMISTON in the Chair

SYMPOSIUM ON MEDICAL PROBLEMS CONNECTED WITH THE DRAFT

1. From the Standpoint of the Ophthalmologist

MAJOR WILLIAM H. WILDER, Camp Zachary Taylor, Louisville, Ky.: The newest manual of instruction for medical advisory boards, Form 64 of the Provost-Marshal-General, says, "Reject all registrants with the absence of one eye and when there is no doubt they are totally blind in both eyes." Be sure the registrant has two real eyes, for glass eyes are really deceiving and sometimes get by. Three such men appeared before the review board at Camp Zachary Taylor. In one case the local examiner had reported vision 20/20 in a glass eye. If good daylight is not available, be sure the Snellen chart is well illuminated by an electric lamp of at least 20 candle power, above or at the side of the chart, and hang the chart in such a background that there will be no disturbing factors, such as placing the chart with a window just behind it, or you will get a lower degree of vision than the applicant really has. Some men who desire to deceive have been coached not to read below the large letter at the top of the card. To avoid being misled by this, cut the card and paste it together with a cloth hinge, hanging it up so that the first line visible is 20/100. If he cannot see this until led up to 10 feet, he will have vision of 10/100 or 20/200. Many men have been sent to the board of review who could read the top line and would not read below that. They would read the first line after the chart was cut as described.

Be suspicious of all men who are uncertain that they see, peering around as though to locate the chart, trying to see a letter, especially if the sight of both eyes is poor and there is no sign of external trouble. Test them with type at the ordinary reading distance and they will show great variation. If feigning poor vision in either eye they may be caught in some other way. Have them remove the coat and hang it on some inconspicuous nail; or when stripped, watch to see if they avoid small blocks of wood on the floor.

Although, according to the latest regulations, local boards may accept registrants for special or limited military service without reference to the advisory board, unless the local board examiner is skilled in ophthalmology tests it would be wise to refer to the advisory board men that do not come up to 20/100 and 20/40 in either eye.

Formerly the regulations provided that men suffering from asthenopia should not be accepted; but the new regulations make no mention of this. Many men of nervous type may have better vision than 20/100 and 20/40, but with hyperopia and astigmatism which produce headache and eyestrain and other signs of asthenopia which are intensified without glasses. Some suffer even with glasses. They would be more poorly qualified for military life than would be one whose vision is no better than 20/100 but with no eyestrain. I have seen such men come who should not have been sent. They are not as good as men with congenital amblyopia in one eye. The congenitally blind may have poor central vision, 5/200 or 10/200, but a good peripheral visual field which still gives a good degree of sight. Indeed, the individual may never have known of the defect and may do the most intricate work without inconvenience, but must be rejected; but the one with the asthenopia and vision up to requirements may be accepted if the examiner is not careful.

There is a rule that those with trachoma are to be accepted pending the results of treatment. Most specialists on the eye are of the opinion that it is contagious in its active stages and is dangerous; that it is very obstinate to treat, and while it may seem to improve and there may be an apparent cure, it is very liable to recurrence on some slight irritation of the eyes and may become a menace to those around. For these reasons the regulations formerly prescribed trachoma as a cause of rejection. In Camp Taylor, with men from southern Indiana, Illinois and eastern Kentucky, we saw considerable trachoma, and the review board sent home 270 of such men in 65 per cent. of the first draft sent to that cantonment. Thirty or forty of these were doubtful cases, but the board dismissed the men rather than take the chance of spreading the disease. In the other cantonments not so many trachoma cases were seen, but many men with trachoma were sent to Camp Taylor on account of the failure of physicians to recognize it

The idea went around that trachoma would be rejected, and there were instances of deception. In one, phenol (carbolic acid) was rubbed into the eye, in another ordinary soap, and ordinary dirt from the camp in another. These men were arrested, court martialed, dishonorably discharged from the service, and imprisoned for three years.

The ophthalmologist in military service must cure inversion and eversion of the lids, ptosis, trachoma, chronic dacryocystitis, pterygium and strabismus. Some of these are simple enough, while others are not easily remediable.

2. From the Standpoint of the Internist

MAJOR ERNEST F. IRONS, Camp Custer, Battle Creek, Mich.: I doubt if many realize the enormousness and the manifold angles of the problem we have on hand in getting men into the service and caring for them after they are in. In most of the cantonments there are not above two Regular Army surgeons in the medical department. The entire examination of the soldiers is in the hands of the Medical Reserve officers who have only recently come from civil life and whose attitude need not be and should not be considered out of harmony with that of physicians still in civil life.

In discussing the causes of rejection at the present time I think we must carefully distinguish between the rejections made under the original regulations promulgated last August and adhered to by the Army surgeons in September, October and November, and the regulations published recently in Form 64 of the Provost-Marshal-General's office. Under the old regulations the attitude of the regimental surgeons and the special boards has been to follow orders as nearly exactly as possible. Under the new regulations a problem has been created by the acceptance of a large number of men who would previously have been rejected. This problem will have to be met and I have no doubt will be met by the authorities. It removes another difficulty, however, and that is one which made necessary the returning to civil life of soldiers we would prefer to keep in the Army in the place provided for them. Up to the present no place has been provided, and in order to keep the soldier in his regiment he must be able to march and drill and shoot; otherwise he is not much good. The quartermaster's corps has been regarded as a soft job where a man should be sent with something the matter with his heart or a stiff shoulder. Of course there is much physical work in the quartermaster's department, and the quartermaster should not carry all the wrecks of the camp.

The new regulations also remove another difficulty. Heretofore the Army surgeon and the reserve officer have been

hesitant about operating on the soldier for hernia, because if that soldier should desire to leave the Army shortly after the operation, all he formerly had to do was to complain of pain in the scar. That was an excuse for continued shirking of his work. One loafer in a company who is continuously put on light duty spoils the morale of the whole company. With the new regulations under which everybody will be operated on, painful scars will not be deemed an excuse, and means will be found to cure them.

A point of peculiar medical interest is in relation to heart lesions. The textbooks and the Army recruiting statistics of previous years have attempted to show that mitral stenosis is a relatively rare lesion. Many of us have been skeptical about that statement in private life, and when we come to examine the statistics in regard to soldiers, mitral stenosis stands at the top, with mitral regurgitation and mitral regurgitation combined with stenosis next, and aortic lesions far below. I am aware of Cabot's statement that we should speak of mitral disease and it has a great deal of truth. Several things account for this predominance of mitral stenotic lesions. As the average physician encounters it, this lesion is not so often recognized as mitral regurgitation. Its recognition is more difficult than other lesions. In ordinary circumstances the fault is not a severe one; there is little or no enlargement and therefore little displacement of the apex. Many persons with these lesions go through life and die of something else, provided they live a quiet life. Many soldiers will tell you that some years prior they had occupations that required a considerable amount of physical effort, but in recent years they had more sedentary occupations—clerical positions and the like. They have gravitated into occupations suited to their physical ability. When they are taken out of their quiet lives and put into the Army where they must drill and go through regular physical exercise, they at once begin to show symptoms of heart lesion which they would not have shown, perhaps, for years in their accustomed occupation. Mitral regurgitation is more easily recognized, because of its frequently loud murmur. Care must be exercised that no diagnosis be made of cases with sharp first sound or presystolic murmur as mitral stenosis, as these patients may have hearts that have no stenosis. Such symptoms come very often in soldiers who have small hearts and who, when put to severe physical exertion, develop irritable hearts. We have seen practically no decompensated hearts. The soldiers are pretty well picked over and cardiac lesions eliminated at the beginning.

Another problem is how to protect the Army from the civil communities. Much is being done along venereal lines by the establishment of extracantonment zones and an efficient semi-secret police. Another problem will confront us more acutely soon, and that is the protection of the Army from the ordinary contagious diseases which are allowed to go on in the civil communities—scarlet fever, measles and diphtheria. The Christmas vacation gave us almost as much trouble as the bad weather. The soldiers came back with diseases that we did not have before. I am firmly convinced that we could take 30,000 or 40,000 troops, put them in charge of a well organized medical department, keep them isolated a month or six weeks, and eliminate contagious disease. We could trace the reinfection of commands to returned soldiers. In the years after the war they will return to civil life trained in respect for law, and then only will the civil communities begin to put into force laws for the control of contagious and other diseases.

3. The Soldier's Foot

MAJOR JOHN RIDLON, Chicago: The new manual of instructions has eliminated for the examining boards practically all the problems concerning foot conditions, and has exemplified the first thing that a man learns in the Army, perhaps, to "pass the buck."

There are three things that are of prime importance to the soldier: first, his foot; second, his teeth, and third, his equipment. Unless the soldier has good feet he cannot get there, and unless he has good food he cannot stay there. If a man has the best of rifles and a thousand rounds of ammunition he is of no earthly use to the Army if he is five miles behind the rest of the Army. So the importance of good feet is a very vital one.

Early in my experience I found in one of the cantonments where the division surgeon was the final authority in regard to all medical matters that he wished to reject an enormous number of foot patients that I, an orthopedic surgeon of many years of experience, believed should be accepted. I went to the next cantonment and found that the division surgeon with the same authority wished to accept patients that I would reject. I wrote to my chief in the Surgeon-General's Office, "Get your division surgeons in line so that a man who is rejected at Camp Taylor cannot be accepted at Camp Sherman. There must be some standard." Nothing was done until the new manual of instructions was brought out, and now the decision is simply passed from the local examining boards to the camp. We were told in the orthopedic department to accept men with weak feet and properly modify their shoes and train them by proper foot exercises until their feet were made strong; that they should be taken from the active duty of drill and long hikes, etc.; but what can one orthopedic surgeon do in a camp of 30,000 men in a hospital of 10,000 beds, with a multitude of other duties and no proper equipment for carrying out the work, no cobbler to modify the shoes, and a delay of four months in filling a requisition for cobbler's equipment, which when it arrived lacked most of the essential articles? The work cannot be done.

We are told by the regulations to accept men with clawfoot. I have never seen a man with clawfoot, though treated by the most skilful orthopedic surgeons or any other kind, that was made by one, two, three or four operations one-tenth part good enough for a soldier.

A case of congenital clubfoot can never be made good; clawfoot, tuberculosis of the tarsus and osteoarthritis cannot be made into good feet, but we have no option but to treat them.

As to the flatfoot, most practitioners think the high arch is the ideal foot and that the low arch should be rejected. The opposite is true. The high arch does not stand punishment as well as the foot that has an abnormally low arch.

4. From the Standpoint of the Appeal Board

DR. M. L. HARRIS, Chicago: The appeal board is the court of last resort until the soldier gets into the camp. The board occupies a different position from the other boards. It does not determine, except indirectly, who shall go to war; its function is to determine who shall not go. It has put up to it all of the troubles that come to the other board, either real or imaginary. Most of them are imaginary. The appeal board today occupies a little different position from what it did two months ago; in other words, it occupies a different position in relation to the second draft as regards medical matters. This refers to the medical side of the appeal board and not to its other functions. Under the first draft it was up to the appeal board to reexamine all registrants who appealed from the local boards. You can imagine that that was some job, particularly as there was only one medical man on the appeal board. Under the new regulations there are several medical advisory boards in our own community, each composed of a number of experts—specialists in various lines. It is the function of these boards to do all the medical reexamining. It was hoped that these boards would relieve the appeal boards of a great deal of work. We still have hopes, although I am forced to say they are not as high as they were awhile ago. Notwithstanding the fact that the men go before these advisory boards for reexamination, they still have the right to appeal to the appeal board, and it is peculiar of the registrants of this community that they do not sleep on any of their rights.

I hope that no one connected with either the local boards or the advisory boards will think that I am trying to criticize the work of these boards. I am not and do not wish to have it so understood; but I must say that from the appeals that are coming to the appeal board there is considerable dis-

satisfaction with the work as it is being done. This dissatisfaction, or this unsatisfactory work, we will say, is not the fault of the members of the board. The advisory boards, particularly, went at the work without any knowledge of what they had to do. They had to make a great many examinations before they had any rules or regulations governing the work. The cases were dumped on the advisory boards by the hundreds, and the advisory boards attempted to examine from 120 to 300 men in an evening, which I must say from some considerable experience is absolutely impossible and an injustice to the men and to the board making the examination. These men are either sent up to the board by the local boards or come to them by request of the individual for the purpose of having a more thorough examination made than can be made by the local board, because the local boards are hampered for time, and they are not composed of specialists. There may be only one medical man on the local board. The advisory boards are supposed to have all the time necessary to make a thorough and complete examination. It is evident that a thorough and complete examination cannot be made of 300 men in an evening; in fact, it is impossible for the board even properly to fill out the three blanks which they are obliged to fill out in the evening's work. As a result much of the work coming up to the appeal board has not been thoroughly done. The appeal board is not supposed to reexamine any of these appealed cases. It is supposed to pass merely on the findings of the local and advisory boards; but if the advisory board does not put down any findings, I do not know how the appeal board is going to pass on them. Many of the papers that come to the appeal board after having passed through the advisory board are practically a blank.

What I wish to impress on the local board and the advisory board is that they must make some record or findings on which the appeal board can form an opinion. One great trouble has been the lack of cooperation between the advisory boards and the local boards. The advisory board started in late without opportunity to consult the rules and regulations. How could they familiarize themselves with the work they had to do without opportunity to come in contact with the local boards? Therefore, without cooperation between the boards they are not to be blamed for not knowing just what to do. In many instances they have acted contrary to the rules, which came out after they had started the work.

There are many rules in this manual of instruction for medical advisory boards, and I am free to admit that some of the rules, I think, are not right. Perhaps to the advisory boards the rules are not right, but that is not their business. The rules are here and it is up to all men to follow the rules. If the advisory boards fail to follow the rules by acting, perhaps, on their own judgment and the record comes to the appeal board, you will find that the appeal board will try to act according to the rules, and therefore they may be overruled. I would take great exception to the interpretation put on the rules read by Major Ridlon, and I will show you why some medical advisory boards make mistakes. Dr. Ridlon read, "Accept all foot and ankle lesions if they do not interfere with wearing an ordinary shoe." The rule says if they cannot wear an ordinary shoe do not accept them; and if it interferes with walking, do not accept them. And the same in regard to weight-bearing power. If they cannot carry pack, do not accept them. It tells the local boards to reject no foot cases. Send them to the advisory board. If they cannot carry weight, do not accept them. Then Major Ridlon read, "Accept for general military service all lesions of the foot and toes irrespective of present function." When? "If, after examination, it is found that they have a remediable defect." What does the rule say in regard to remedial defect? You do not accept them. That is a deferred classification. They do not go at all unless and until the Surgeon-General says so. If the man has hammertoe and cannot walk, or clawfoot, you do not take him, you classify him fit for general military service after being cured of his defect. If you cannot cure him you do not accept him at all.

DISCUSSION

WILLIAM ALLEN PUSEY, Chicago: Dr. Harris has made my speech. I have been impressed with the discussion that the point of view of many doctors is different from that of the men who wrote the manual. Their view has been rather this, How can we avoid sending to the camp men who should not be sent there? while the point of view of the authors of this manual has been, How can we avoid allowing men to escape who really ought to go? And this is a very different problem.

I can speak more particularly of skin and venereal diseases, which was the subject assigned to me. I was asked to draw up regulations for these fields for the local boards first. They were not allowed to exempt anybody who was not incapacitated permanently by skin diseases, and I presented practically this regulation, that nobody should be rejected for skin disease unless of long duration, so severe as permanently to incapacitate, or so disgusting as to make it impossible to have ordinary social intercourse. The same applied to ulcers, syphilis and gonorrhea. These men were not to be rejected except when the disease had already produced permanent incapacities to prevent them from doing their military duty. That does not require expert dermatologic knowledge or expert knowledge of venereal disease. A man with ordinary common sense should be able to act under these requirements.

When it came to the regulations for advisory boards and cantonment boards, I was asked this question: What diseases of the skin are there that should unquestionably incapacitate a man for military service? There are about 275 or 300 skin diseases, and I went through that list with care, time and again; and the only ones that I believed would in any cases unquestionably meet the requirements were actinomycosis, dermatitis herpetiformis of long duration, epidermolysis bullosa, universal dermatitis of long duration, glanders, multiple hemorrhagic sarcoma of the skin, mycosis fungoides, and pemphigus of various forms.

The regulations were drawn up by a group of specialists. They were finally brought together and edited by three members of the board and put into their present form. I agree with Dr. Harris that it is likely in most cases, if the regulations are studied carefully with a sympathetic desire to understand, and not with the capacity for finding defects, that the reader will find a basis of interpretation of the cases.

Dr. Wilder brought up trachoma, which is in Class B. Some oculists have failed to note that trachoma patients must be cured. Until they get well they stay at home. It was recognized that they were not men for mixing with soldiers while they had their trachoma. The question of remediable operation came up, and the question of painful scar; and if I followed the surgeons correctly, it was regarded as a myth that might be disregarded.

Dr. Ridlon brought up the question of failure of supplies. I have been impressed with the fact that if a man has a capacity for finding difficulties he can find them all the time. In one camp the genito-urinary specialist has a dark-field apparatus, a cystoscope, mercurial ointment, arsphenamin, etc., and in another place he literally has not a pair of scissors. My experience has been that when one cannot get anything or do anything, it is always the fault of some one on the ground. Most of the medical men are succeeding admirably in meeting many difficulties.

MAJOR J. M. DODSON, Chicago: If I were to say anything it would be a word in favor of the advisory boards. I am not at all surprised at the difficulties of which Dr. Harris has spoken. I am not as pessimistic as he is concerning the future. The members are training themselves, and now that they have found themselves and are getting into touch with the local boards they are doing more efficient work. Most of the difficulties have grown out of the common fault into which our nation was forced, but which we as individuals fall into, and that is the common fault, "Haste makes waste." There was a rush to get things done. It is easy enough to see now that this whole matter would have moved more smoothly if the government had called a halt three weeks ago and said to the advisory boards, "We have made a manual of instructions in which we have made up our minds

definitely as to certain things we want to do," and then proceeded on that basis.

The major burden of the whole draft falls on the medical profession. I think we are glad of it and agree that it is a great thing and we should be proud that the medical profession can render this magnificent service to our country at this time. There are some men who feel that we are always the "goats"; that we do more charity work and are expected to do more work with less appreciation than any other group of men. There is another group of men who are proud to render service, and may I say that the men in the medical profession who have made it a proud thing to belong to have not been men in the first group who were afraid of being imposed on?

MAJOR JOHN RIDLON, Chicago: I want to plead guilty to the charge that I have never studied the manual in its entirety and only read over the part of it relating to the orthopedist; also to Dr. Pusey's criticism that I have a capacity for finding difficulties. But let me assure Dr. Harris that if all the foot complaints that come to the base hospitals in those cantonments are rejected; if all the men who come to the exemption boards are placed in Class B, 60 per cent. of those complaining of their feet will stay at home, and it is a very easy thing to complain of your feet. If they are not to be sent until they are cured, who is to compel a man who does not want to go into the service, to be cured? I know of no one who can compel him to.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

American Journal of Ophthalmology, Chicago

February, 1918, **1**, No. 2

1 Hole at Macula. C. A. Burkholder, Camp Sherman, Ohio.—p. 81.
2 Glaucoma from Absorption of Senile Cataract. H. Gifford, Omaha. —p. 83.
3 Injury to Eyes from Lightning Stroke. W. C. Posey, Philadelphia. —p. 88.
4 Membranous Conjunctivitis of Over Four Years' Duration. H. S. Stark, El Paso, Texas.—p. 91.
5 Corneoscleral Trephining. C. A. Clapp, Baltimore.—p. 94.
6 Melanoblastomas of Eye. J. Forman and C. C. Hugger, Columbus. —p. 97.
7 Rôle of Ductless Glands in Ophthalmology. F. R. Spencer, Boulder, Colo.—p. 100.
8 Relation of Retinitis Pigmentosa and Allied Conditions to Ductless Glands. E. L. Jones, Cumberland, Md.—p. 107.
9 Successful Removal of Bullet Imbedded in Orbit Ten Years. O. Orendorff, Canon City, Colo.—p. 114.
10 Importance of Temperature Curve for Early Recognition of Intra-Ocular Tuberculosis. H. A. Smith, Delta, Colo.—p. 116.
11 Case of Massive Retinal Exudate. M. Black, Denver.—p. 120.

American Journal of Physiology, Baltimore

February, 1918, **45**, No. 3

12 Physiology of Ascidia Atra Leuseur. Blood System. S. Hecht.—p. 157.
13 *Evidence for Enzymatic Basis of Heart Beat. M. M. Moore, New Brunswick, N. J.—p. 188.
14 *Vasodilator Reactions. I and II. R. Hunt, Boston.—pp. 197, 231.
15 *Influence on Thyroid of Anastomosis of Phrenic and Cervical Sympathetic Nerves. D. Marine, J. M. Rogoff and G. N. Stewart, Cleveland.—p. 268.
16 *Postural Activity of Stomach. E. G. Grey, Baltimore.—p. 272.
17 *Rôle of Catalase in Shock. W. E. Burge and A. J. Neill, Urbana, Ill.—p. 286.
18 Secretin. Its Influence on Number of White Corpuscles in Circulating Blood. A. W. Downs and N. B. Eddy, Montreal, Canada. —p. 294.
19 *Effect of Epinephrin on Blood Flow in Muscles. C. M. Gruber. —p. 302.

13. **Enzymatic Basis of Heart Beat.**—Loeb long ago suggested that the heart owes its rhythmicity to the constant fermentative production of certain compounds in the automatically active cell. If this idea is correct, the curve of the rate of heart beat plotted against temperature should be a typical enzyme curve and the temperature coefficient of the rate of heart beat should show the same variations which that of enzyme reactions do; that is, become smaller with increasing temperature. Accordingly Moore carried out a series of experiments on Fundulus embryo hearts. She found that the changes in the rate of the heart beat of the Fundulus embryo at high temperatures are such as would be expected in case the rhythmical contractions of the heart depend on the velocity of an enzyme reaction. With high temperatures the length of time exposed is an important factor. The longer the time exposed, the lower the temperature necessary to bring about standstill of the heart, indicating a temperature coefficient of the destruction of the enzyme. Auriculoventricular block was observed as a result of high temperature. The ventricle is first affected by the high temperature, and finally the auricle and sinus.

14. **Vasodilator Reactions.**—I. The experiments described by Hunt resulted from an endeavor to discover the cause of the marked fall of blood pressure following the administration of certain drugs; they have led to the conclusion that there is present in mammals (and perhaps other animals) a vasodilator mechanism not recognized, or only vaguely recognized, capable of responding with more intense reactions than any of the mechanisms generally recognized and one which may be more perfectly controlled than the latter. Acetylcholin was the vasodilator used in these experiments. Acetylcholin has an intense vasodilator action on the vessels of the skin and of the ear; the action on the skeletal muscles is slight. It dilates the vessels of the penis, of the submaxillary gland and of the spleen; it seems also to dilate the vessels of the intestines and liver. Only slight evidence of a dilator action was found in the case of the kidney and none in that of the lung. The nasal mucosa seemed relatively less sensitive to the vasodilator action of acetylcholin than many other vascular areas. The vasodilatation in all of these cases was diminished or prevented by atropin. As little as 0.000,000,002,4 mg. acetylcholin per kilogram caused a pronounced fall of blood pressure. Acetylcholin injected into the trachea or applied to the surface of the lung, kidney, liver, suprarenal and various muscles was very active in causing a fall of blood pressure; similar doses applied to the surface of the stomach, spleen and small intestine had no effect on the blood pressure.

II. Further study showed that the mechanism involved in the vasodilator action of acetylcholin and related bodies is different from that involved in the action of any of the nerves (posterior root, parasympathetic and sympathetics) to which vasodilator functions have been attributed. It is also different from that involved in the depressor action of epinephrin. This mechanism, although capable of more energetic response than any hitherto described, is not involved in the action of the depressor or of other afferent nerves causing a fall of blood pressure. The only substances found having the same type of vasodilator action as acetylcholin were a limited number of compounds derived from, or closely related to cholin and pilocarpin and colchicin. Atropin and closely related substances were the only compounds found having a pronounced antagonistic action to the vasodilator action of acetylcholin. Pilocarpin diminished the action slightly. Physostigmin intensified all of the action of acetylcholin.

15. **Effect of Phrenic Sympathetic Union on Thyroid.**—The experiments reported on by the authors represent an attempt to repeat the observations of Cannon, Binger and Fitz (1) on the effects of fusion of the anterior root of the phrenic nerve with the cervical sympathetic on the thyroid function in cats. In none of the animals were any symptoms resembling those of exophthalmic goiter observed. In several it was proved by electrical stimulation that functional union had occurred between the phrenic and the cells of the superior cervical ganglion innervating the iris and the nictitating membrane. It was shown in several of the cats that a tonic dilator effect must have been exerted through the phrenic on the pupil of the operated side. This follows from the fact that in animals in which it was demonstrated by electrical stimulation that the phrenic caused dilatation of the pupil, while the sympathetic below the neuroma did not, the pupils on the two sides were equal. In the cat it was proved directly by nerve section that the phrenic was exerting a

tonic dilator effect, for when the anterior phrenic root central to the neuroma was divided the pupil on that side became smaller than the other and remained smaller. In several cats the effect of stimulation of sensory nerves (central end of cut sciatic) on the pupil was noted. Dilatation occurred on the operated side at the same time as on the normal side and in the same degree. In none of the animals was respiratory hippus seen although carefully and repeatedly looked for. If the dilator innervation is due to impulses from the respiratory center, there does not seem to be any obvious reason why a rhythmical change synchronous with the respiration should not be present. The authors state that it was not seen in any of their cats. Exophthalmos did not develop in any of the animals. The thyroids were always approximately equal on the two sides and of the same color on gross examination. Histologically no difference was observed between the thyroid on the operated and that on the normal side. Variations in the weight of the suprarenals were within the normal range.

16. **Postural Activity of Stomach.**—Experiments were carried out by Grey in order to study, in some detail, the postural activity (Sherrington) of the gastric musculature. The following points may be emphasized. The normal stomach possesses a striking capacity for adapting its size to the volume of its contents with only minimal changes in intragastric pressure. This capacity disappears only shortly before the viscus ruptures. Time is an essential factor in the expression of this form of muscular activity—as the rate of change in volume of contents increases, the extent of the postural activity decreases. The extrinsic nerves have nothing directly to do with the postural configuration of the viscus. The mechanism responsible for these changes concerns solely the musculature itself together with the intrinsic nervous mechanism. Pilocarpin, atropin and epinephrin likewise have only an indirect influence on postural activity. They neither increase nor decrease gastric tonus, but, like the extrinsic nerves, serve to regulate the tension of the stomach walls. Excision of the stomach leads to a marked decrease in its postural activity, due in greater part probably to changes in the intrinsic nervous mechanism.

17. **Rôle of Catalase in Shock.**—According to Burge and Neill in the condition of shock, the catalase of the blood and probably of the tissues is decreased. The decrease in the catalase of the blood is brought about by a diminished output of catalase from the liver owing to the lowered blood pressure and probably by a dilution of the blood due to a diffusion of liquid, poor in catalase, from the tissues. The administration of alcohol in the condition of shock greatly increases the catalase of the blood and hence of the tissues by stimulating the liver to an increased output of this enzyme. Since catalase content is so inseparably connected with oxidation in the body, the assumption is made that the decrease in catalase is principally responsible for the decreased oxidation with resulting acidosis in the condition of shock, and that the beneficial effect of alcohol as a stimulant in shock and in conditions of general depression is due to the increase it causes in the catalase of the blood and tissues with resulting increase in oxidation and decrease in acidosis.

19. **Effect of Epinephrin on Blood Flow in Muscles.**—The research was carried out to determine whether or not epinephrin acted centrally or peripherally in producing vasodilatation in muscles. Gruber found that epinephrin in small doses (0.5 to 2 c.c. 1:100,000 solution) produces active dilatation of the vessels in cats' muscles when the nerves are intact. Epinephrin, in any strength, produced no active vasodilatation in muscles in which the nerves were recently cut. Small doses of epinephrin (1:100,000) slowly injected intravenously produce active vasodilatation in muscles in which the nerves were previously cut and allowed to degenerate from two to ten days. Small amounts of epinephrin (0.5 c.c. 1:100,000) injected intravenously did not produce vasodilatation in eleven experiments in the perfused limb intact with the central nervous system. A fall in blood pressure was obtained in every case showing dilatation somewhere in the vascular system. In perfused limbs large amounts of epinephrin (0.5 c.c. 1:10,000) produced active vasodilatation accompanied by a rapid increase in blood pressure followed by a fall. Gruber believes that the vasodilatation in muscles caused by small amounts of epinephrin is dependent on the tonicity of the vessel wall. Small doses of epinephrin (0.5 c.c. 1:100,000) bring about vasodilatation by their action on the peripheral vasodilator mechanism.

American Journal of Public Health, Boston

February, 1918, **8**, No. 2

20 Venereal Diseases and War. W. C. Gorgas, Washington, D. C.—p. 107.
21 Ventilation of Army Barracks. W. J. Mauer, Chicago.—p. 112.
22 Control of Communicable Diseases in Camps. I. W. Brewer.—p. 121.
23 Prophylaxis of Industrial Poisoning in Munition Industries. A. Hamilton, Chicago.—p. 125.
24 What We Are Doing to Prevent Tuberculosis Among Children. L. I. Harris, New York.—p. 131.
25 State Health Departments and Municipal Refuse Disposal. E. D. Rich, Lansing, Mich.—p. 135.
26 Practical Uses of Vital Statistics. S. W. Wynne, New York.—p. 138.
27 Comparative Wassermann Tests with Two Antigens. A. I. Van Saun and M. K. Preston, New York.—p. 146.
28 Diphtheria in Court Bibles. H. N. Calver, Winston-Salem, N. C.—p. 148.
29 Theory vs. Practice in Vital Statistics. T. D. Tuttle, Seattle.—p. 150.
30 Bleaching Powder in Place of Permanganate in Fumigation. D. W. Horn.—p. 161.

Archives of Pediatrics, New York

January, 1918, **35**, No. 1

31 *Bacteriology of Urine in Children with Gastro-Intestinal Diseases. A. B. Schwartz, Milwaukee, Wis.—p. 1.
32 Comparative Study of Therapeutic Effects of Various Forms of Tuberculins, Vaccines and Serums in Pulmonary Tuberculosis in Children. M. S. Cohen, Philadelphia.—p. 11.
33 *Comparison of Various Tuberculin Tests in Childhood. E. F. Warner, St. Paul.—p. 28.
34 Case of Idiopathic Dilatation of Colon. J. P. C. Griffith, Philadelphia.—p. 36.
35 Value of Wassermann Reaction in New-Born. H. H. Yerington, San Francisco.—p. 40.
36 Case of Congenital Atresia of Small Intestine. F. V. Bogert, Schenectady.—p. 45.

31. **Bacteriology of Urine in Children.**—The sixty-three patients studied by Schwartz represented various types of all the known forms of gastro-intestinal diseases and were generally of a very severe nature as exhibited by the extremely high mortality rate. With few exceptions these patients were under 2 years of age. Thirty-eight, or 60.3 per cent., showed the presence of gram-negative bacilli in their urine. Of those in which the first and second portions of the urine were separately cultured, 21.4 per cent. showed a sufficient number of gram-negative bacilli in the second specimens to constitute a bacilluria. Urethral contamination was almost three times as prevalent in girl babies as in boys, while actual bacilluria was twice as prevalent in girls as it was in boys.

33. **Tuberculin Tests in Childhood.**—In twenty exposed children recently tested by the subcutaneous tests by Warner, eight reacted with 1 degree of fever to 1 mg. of tuberculin. Four of these were discharged patients from the Ramsey County Preventorium and had received tuberculin previously. Excluding these, there were four reactors out of twenty tests, or 20 per cent. A thoroughly conducted subcutaneous test in children under the proper precautions of selection of cases and previous temperature control, together with the history of the case is considered by Warner one of the most valuable, tuberculin tests for the purpose of separating the active from the latent cases.

Boston Medical and Surgical Journal

February 21, 1918, **178**, No. 8

37 *Acute Lobar Pneumonia. F. C. Shattuck and C. H. Lawrence, Boston.—p. 245.
38 Recent Treatment of Lobar Pneumonia. T. F. Leen, Boston.—p. 251.
39 Recruiting Notes. H. W. Dana, Boston.—p. 255.
40 Army Surgeon of Other Days. H. D. King, New Orleans.—p. 258.
41 Gonorrhea in Young Male Children; Its Treatment. W. D. Bieberbach, Worcester.—p. 259.

37. **Acute Lobar Pneumonia.**—This paper presents an analysis of 3,291 cases of lobar pneumonia treated at the Massachusetts General Hospital from 1889 to 1917, and a comparison of statistics with those obtained from a study of 1,000 cases treated from 1822 to 1889. The mortality has gradually increased from 10 per cent. in the first decade to 28 per cent. at the present time. Since 1881 there has been no significant change in the death rate; in fact, the mortality rate for pneumonia in the entire series has shown no permanent important change. Treatment has done nothing toward diminishing the mortality from pneumonia in the past ninety-five years. Bleeding, purging, fresh air—the result has been the same. Of particular interest is the evidence offered by the figures on the effect of alcohol. Its habitual use, during health, in more than moderate amounts, is shown to diminish the patient's chances of recovery. But the mortality rate among those patients who were given large amounts of alcohol during their illness, is no higher than among those given no alcohol and large amounts of fresh air. These figures do not indicate that alcohol is harmful to those sick with pneumonia. They suggest that the effect of the drug varies with the conditions under which it is given, and that it is not poisonous to those who have high temperatures and are taking insufficient nourishment. According to Coolidge and Townsend, no change is to be expected in the results of treatment until a specific is discovered which will neutralize the toxins of the pneumococcus. The results from the serum now in use are encouraging, but limited, and until its use becomes accepted, the treatment of pneumonia must be that best suited to the individual. No routine treatment has been justified by its results.

Colorado Medicine, Denver

February, 1918, **15**, No. 2

42 Peptic Ulcer and Gallstones in Upper Abdominal Diagnosis. C. Graham, Rochester, Minn.—p. 34.
43 Rôle of Ductless Glands in Ophthalmology. F. R. Spencer, Boulder.—p. 411.
44 General Physiologic Relations of Internal Secretions. H. Sewall, Denver.—p. 45.

Indiana State Medical Association Journal, Fort Wayne

February, 1918, **11**, No. 2

45 Prostatic Hypertrophy. W. N. Wishard and H. G. Hamer, Indianapolis.—p. 47.
46 Hypertrophy of the Prostate. C. M. Mix, Muncie.—p. 53.
47 Complement Fixation in Diagnosis and Prognosis of Tuberculosis. V. H. Moon, Indianapolis.—p. 61.

Journal of Abnormal Psychology, Boston

December, 1917, **12**, No. 5

48 Coconscious Images. M. Prince.—p. 289.
49 Application of Psychanalytic Method. H. I. Gosline, Worcester.—p. 317.
50 Treatment of Dementia Praecox by Psychanalysis. I. H. Coriat, Boston—p. 326.
51 How Far Can Ideas Directly Influence or Affect Peripheral processes? M. Solomon, Chicago.—p. 331.
52 Eupathics—Program for Mental Hygiene. A. Myerson, Boston.—p. 343.

Journal of Medical Research, Boston

January, 1918, **37**, No. 3

53 *Organization of Blood Clots After Autotransplantation, Homoiotransplantation and Heterotransplantation. L. Loeb, St. Louis.—p. 353.
54 *Is There Any Quantitative Relationship Between Antigen Dose and Antibody Production? E. T. H. Tsen, New York.—p. 381.
55 *Comparative Study of Infantile Paralysis, Animal Distemper and Its Related Diseases. L. D. Bristol, Boston.—p. 391.
56 *Etiology of Granuloma Inguinale. E. L. Walker, San Francisco.—p. 427.
57 Quantitative Study of Regeneration in Uterus of Guinea-Pigs. L. S. N. Walsh and L. Loeb, St. Louis.—p. 441.
58 *Method for Producing Rapid Immunity to Pneumococci. H. L. Alexander, Boston.—p. 471.
59 Immunity and Tissue Transplantation. Reactions Occurring About Tissue Transplanted into Heterologous Animals. M. S. Fleisher, St. Louis.—p. 483.
60 *Etiology and Pathology of Rocky Mountain Spotted Fever. S. B. Wolbach, Boston.—p. 499.

53. **Organization of Blood Clots.**—Loeb distinguished two kinds of organization of the blood clot: (*a*) the provisional and (*b*) the definite one. The provisional organization consists in the ingrowth of more or less isolated fibroblasts into the coagulum. This mixture of coagulum and fibroplasm becomes definitely organized. Different pieces are organized with different rapidity. Mitoses occur in both the fibroblasts in the capsule around the clot as well as in the fibroblasts entering the clot. They occur also in epithelioid cells which are formed in the clot. The fibroblasts not only move into the clot and organize it, but through their kinetic power they tear off superficial parts of striated muscle on which the clot rests and push these pieces further up toward the clot. Throughout the process of organization, cells which migrate into the clot now and then take up erythrocytes and transform them into pigment. At certain places in the clot Loeb observed, at various periods of the process of organization, epithelioid and giant cells.

54. **Antigen Dose and Antibody Production.**—From the results of Tsen's experiments, there seems to be no quantitative relationship between the antigen dose and antibody production. Individuals can produce as much antibody in response to the injection of small as to that of large doses of antigen. The rapid method of producing antibodies appears from the author's experiment to be just as efficient as, but not better than, the slow method.

55. **Comparative Study of Infantile Paralysis.**—The chief theoretical suggestion made by Bristol is that infantile paralysis may be nothing more than the manifestation of a common, widespread human pasteurellosis—the nonparalytic (a better term than abortive) cases, representing chiefly the digestive and respiratory types of the disease, while the paralytic cases may be included in the nervous type. Based on this assumption, the mode of spread may be considered analogous to that demonstrated for all forms of pasteurellosis in animals, namely: (1) directly, by contact with the fresh secretions or excretions of an infected individual (either diseased or a healthy carrier); (2) indirectly, by the carriage of the specific organisms by insects, or possibly in dust, uncooked food or drink. Considering the epidemiology of the disease in this light, the great variation in virulence which is characteristic of the various bipolar bacilli must be kept in mind. Thus, bipolar bacilli causing disease in one animal is most virulent for that particular species of animal, but (though somewhat less virulent) this same strain of organism may at times cause symptoms of similar disease in other species. Hence, it might be believed that sporadic cases, small outbreaks or local outcroppings in epidemics of a human pasteurellosis have their origin in lower animal reservoirs; but that severe, widespread epidemics, and the gradually increasing prevalence of the disease are due more to the passage of a human strain of the organisms (of a steadily increasing virulence) directly or indirectly from person to person.

56. **Etiology of Granuloma Inguinale.**—This investigation of granuloma inguinale by Walker is based on a study of material from a patient under his observation from April 29 to June 5, 1916. He found that the essential etiologic factor of granuloma inguinale is the intracellular organism discovered by Donovan (1905) and found constantly in the lesions. This intracellular organism is a capsule bacillus of the *B. mucosus capsulatus* Friedländer group. Granuloma inguinale is not itself a venereal disease, but it is probably a secondary infection with the capsule bacillus of lesions of other origin, which may be venereal sores.

58. **Producing Rapid Immunity to Pneumococci.**—In the experiments here described, pneumococci and leukocytes were mixed together and incubated for given lengths of time. The mixtures were then used as antigens and injected into rabbits, whose serums were tested at intervals for the presence of protective substances. Alexander found that protective substances to pneumococci may be demonstrated in considerable amounts in the blood serum of rabbits within six to eleven days after the first injection of the leukocyte reinforced antigen, which contains a larger number of living pneumococci than is possible to employ in methods of immunization ordinarily used. This protection is not obtained in so short a time with similar antigens containing killed

organisms, or in the absence of leukocytes. The protective bodies cannot be materially increased by three series of injections. Long incubations produce acute protein poisoning. Such production of protective substances within a short time simulates a condition found in pneumonia patients, at about the time of the crisis.

60. **Etiology of Rocky Mountain Spotted Fever.**—Wolbach says that the specific lesions of Rocky Mountain spotted fever are practically restricted to the blood vessels of the skin and genitalia. The reaction is a characteristic one, an endangeitis characterized by endothelial cell proliferation, local necrosis of endothelium and smooth muscle and thrombosis. Perivascular accumulations of large mononuclear cells (endothelial cells) are of common occurrence. Lesions of the large blood vessels of the body and of the vessels of organs other than the skin and genitalia are of rare occurrence and of insignificant moment. The general reactions to the toxic properties of the paraslte are evidenced by a general increase in the intravascular content of large mononuclear cells (endothelial cells), often phagocytic, and by the accumulation of similar cells in the lymph nodes and spleen. The cause of the disease is the minute parasite previously described in guinea-pigs and monkeys, and now proved to be constantly present in the lesions of blood vessels in man, monkeys, rabbits and guinea-pigs, and in ticks capable of transmitting the disease.

Journal of Nervous and Mental Diseases, Lancaster, Pa.

January, 1918, **47**, No. 1

61 *Key to Practical Grouping of Mental Diseases. E. E. Southard, Boston.—p. 1.
62 Prognosis in Manic-Depressive Insanity. J. B. Macdonald, Danvers, Mass.—p. 20.
63 Method of Recording Brain Weights; Error Due to Inclusion of Cerebral Fluid. L. G. Lowrey, Danvers, Mass.—p. 31.

61. **Grouping of Mental Diseases.**—The sequence of mental disease groups provisionally arranged by Southard is as follows: Mental disease groups (orders): (1) syphilitic, syphilopsychoses; (2) feebleminded hypophrenosis; (3) epileptic, epileptoses; (4) alcoholic, drug, poison, pharmacopsychoses; (5) focal brain ("organic," arteriosclerotic), encephalopsychoses; (6) bodily disease ("symptomatic"); somatopsychoses; (7) senescent, senile, geriopsychoses; (8) dementia praecox, paraphrenic, schizophrenosis; (9) manic-depressive, cyclothymic, cyclothymoses; (10) hysteria, psychoneuroses, neurasthenic, psychoneuroses; (11) psychopathic, paranoiac, and others, psychopathoses. The ending -osis was chosen for these groups to correspond exactly with the ending aceae for certain botanic groups, the so-called orders of plants. Whereas the ending -osis suitably expresses ordinal characters, the ending -ia (as in epilepsia, neurasthenia) suitably indicates generic characters of disease.

Laryngoscope, St. Louis

February, 1918, **28**, No. 2

64 Results Obtained by Tonsillectomy in Treatment of Systemic Diseases. D. W. Layman, Indianapolis.—p. 65.
65 Implantation Cyst of Larynx. L. W. Dean and J. B. Gregg, Iowa City, Iowa.—p. 74.
66 Diagnosis of Speech Defects. M. K. Scripture, New York.—p. 78.
67 Copper Brad in Left Inferior Bronchus. Removal. R. McKinney, Memphis, Tenn.—p. 89.
68 Empyema of Ethmoid and Frontal Sinus with Perforation of Inner Wall of Orbit. E. R. Roberts, Bridgeport, Conn., and T. J. Harris, New York.—p. 93.
69 Macroglossia Lymphangioma; Report of Case. R. D. Sleight and W. Haughey, Battle Creek, Mich.—p. 99.
70 Nasopharyngeal Fibromyxoma, Undergoing Sarcomatous Changes. L. J. Goldbach, Baltimore.—p. 106.
71 Free Needle for Suturing Submucous Flaps. V. B. Fischer, Boulder, Colo.—p. 109.
72 Instrument for Making Drainage Incision on Floor of Nose, Obviating Use of Packing Following Resection of Septum. L. Gatewood, New York.—p. 111.

Medical Record, New York

Feb. 23, 1918, **93**, No. 8

73 Malnutrition Among Schoolchildren. Report of Public Health Committee of New York Academy of Medicine.—p. 311.
74 Psychopathology of Selections of Vocations. A. A. Brill, New York. p. 318.
75 *Use of Carrel-Dakin Solution on Service of Dr. J. B. Deaver, in Lankenau Hospital, Philadelphia. J. W. Bodley, W. H. Means and H. E. Knox, Philadelphia.—p. 323.
76 Teeth According to Rabelais. D. W. Montgomery, San Francisco. —p. 327.
77 Primitive Treatment of Disease. J. B. Percival, Paramaribo, Dutch Guiana.—p. 330.

75. **Report on Carrel-Dakin Solution.**—Contrary to many observers the authors believe that the Carrel technic is not a complicated one. It requires no more time, labor or material than the method of treating purulent collections with drainage tubes and irrigations of saline, mercuric bichlorid or phenol solutions. The deodorizing effect of this solution is very important. This has a psychologic effect in aiding the patients' convalescence. The irritating effect of the solution on skin surfaces has been very slight. The authors have abandoned the use of gauze strips saturated with petrolatum and use no protection at all, except when the skin appears hypersensitive, in which case a spray of liquid paraffin is used. The mucous surfaces appear to suffer no more than the skin, as instanced by the use of the solution as a vaginal douche.

Emphasis is laid on the contraindication to the use of the solution in cases in which there is much hemorrhage. This is controlled as well as possible at time of operation and the solution not used until twenty-four to forty-eight hours have elapsed. Other contraindications to the use of the solution are in infections due to the *Bacillus pyocyaneus*, on which it seems to have no effect, and in all classes of wounds after the infection has been controlled, when it is unnecessary and has a retarding influence on granulations. In fecal fistulas the solution is not used, because it has been noticed that patients with this condition suffer with a great deal of discomfort, and at times pain, for three to four hours after the dressing.

Nebraska State Medical Journal, Norfolk

February, 1918, **3**, No. 2

78 Acidosis in Children. F. Clarke, Omaha.—p. 37.
79 Empyema in Children. H. B. Hamilton, Omaha.—p. 41.
80 Diagnostic Value of Cerebrospinal Fluid Examination. M. G. Wohl, Omaha.—p. 43.
81 Present Status of Streptococcus Differentiation. W. C. Becker, Papillion.—p. 47.
82 Presentations and Their Diagnosis. J. N. Campbell, Stamford.—p. 50.
83 Empyema of Nasal Accessory Sinuses. H. B. Lemere, Omaha.—p. 53.

Neurological Bulletin, New York

January, 1918, **1**, No. 1

84 Recurrence of Extramedullary Endothelioma After an Interval of Eight Years. A. V. S. Lambert, New York.—p. 1.
85 *Poliomyelitis with Prolonged Somnolence. F. Tilney, New York.—p. 7.
86 Aphasia; Report of Three Cases. M. Osnato, New York.—p. 11.
87 Case Presenting Thalamic Syndrome. S. P. Goodhart, New York. —p. 22.
88 Description of Summary and Differential Diagnosis Blank. O. S. Strong, New York.—p. 25.
89 Case of Syringomyelia with Differential Diagnosis. O. S. Strong, New York.—p. 29.
90 Case of Acromegaly with Gigantism in Family. M. T. Craft, London, Ky.—p. 32.

85. **Poliomyelitis with Prolonged Somnolence.**—Tilney cites the case of a boy, 4 years of age, who left New York for Liverpool in good health, remaining so for the entire trip across the ocean; he was not even seasick. On arriving in Liverpool he did not feel well. He seemed weak, but had no pain and his body did not seem warm. That evening he was seen by a physician, who looked at his tongue, but made no further examination. On learning he had just arrived from New York, the physician said: "Probably infantile paralysis." Another physician was called the next day, who found the child sleeping, in which condition he remained, not even arousing to take food. There was apparently no elevation of temperature. On the fourth day he was still sleeping. The mother took the child to the hospital and laid him in bed on his right side. Each time she called to see him he still lay on his right side in the same posture, apparently unchanged, even when she called six days later to take him away. He had taken no food during all this time. After fourteen days, the boy made the first sound, calling his mother. The child was unable to hold up his head

without assistance for six months. He sat up alone for the first time after five months; two weeks later he was able to stand; and has since been gradually improving, the right leg remaining much thinner and softer than the left.

New York Medical Journal

Feb. 23, 1918, **107**, No. 8

91 Demons of Heresy and Demons of Disease in Processes of Thought. J. Wright, Pleasantville.—p. 337.
92 Pericholecystic Adhesions Dyspepsia and Its Diagnosis. G. A. Friedman, New York.—p. 341.
93 Subconjunctival Injections. A. M. MacWhinnie, Seattle.—p. 343.
94 Case of Meningitis Caused by B. Influenza. R. Hills, New York. —p. 345.
95 Hydatid Pyopneumocyst of Liver. M. H. Vegas, Buenos Aires.—p. 346.
96 Treatment of Painful Dysphagia in Tuberculous Laryngitis. R. McD. Lukens, Philadelphia.—p. 353.
97 Thrombophlebitis of Inferior Vena Cava Complicating Varicella. S. A. Blauner, New York.—p. 355.
98 Syphilitic Blood on Surgeon's Fingers in Intravenous Administration of Arsenicals. N. B. Jenkins, New York.—p. 356.

Northwest Medicine, Seattle

February, 1918, **17**, No. 2

99 Alkali Reserve and Hydrogen Ion Concentration of Blood. Methods and Results. H. D. Haskins, Portland, Ore.—p. 35.
100 Nonprotein Nitrogen in Blood in Nephritis. R. Cummings, Los Angeles.—p. 41.
101 Transfusion of Blood by Direct Method. W. C. Speidel, Seattle.—p. 44.
102 Obtaining Blood for Diagnostic Purposes in Infancy from Longitudinal Sinus and Transfusion by Same Route. E. M. Tarr, Portland, Ore.—p. 47.
103 Practical Considerations in Blood Pressure. W. T. Woolley, Seattle.—p. 49.
104 Acne Vulgaris. W. Brown, Tacoma.—p. 51.
105 Clinical Interpretation of Labyrinthine Phenomena in Presence of Suppurative Inflammation of Middle Ear. O. M. Rott, Spokane. —p. 56.
106 Water, Its Scientific Use in Relief and Prevention of Disease. M. E. J. Donaldson, Boise, Idaho.—p. 57.

Pennsylvania Medical Journal, Athens

February, 1918, **21**, No. 5

107 Dysentery and Its Relation to Camp Life. E. R. Whitmore, Washington, D. C.—p. 273.
108 Minor Eye Injuries and Workmen's Compensation Law. L. E. Schoch, Shamokin.—p. 278.
109 Pituitary Tumor—Operation by Transphenoidal Route. F. O. Lewis, Philadelphia.—p. 282.
110 Nonoperative Treatment of Nasal Sinusitis. E. L. Vansant, Philadelphia.—p. 284.
111 Indications for Operation in Glaucoma. W. C. Posey, Philadelphia.—p. 290.
112 Syphilis as Factor in Diseases of Thyroid. T. G. Simonton, Pittsburgh.—p. 293.
113 Corneal Ulcers. A. R. Renninger, Philadelphia.—p. 296.
114 Hyperthyroidism and Mental Disorders. W. K. Walker, Pittsburgh.—p. 300.

Public Health Journal, Toronto

February, 1918, **9**, No. 2

115 Advisory Committee on Venereal Diseases for Military District. No. 2. J. G. Fitzgerald.—p. 49.
116 Military Aspect. G. Bates.—p. 53.
117 Subcommittee on Women's Activities. L. A. Hamilton.—p. 58.
118 Subcommittee on Quack Advertising. F. Paul.—p. 63.
119 Subcommittee on Education. A. E. S. Smythe.—p. 68.
120 Subcommittee on Legislation. C. J. O. Hastings.—p. 73.

Southwest Journal of Medicine and Surgery, El Reno, Okla.

February, 1918, **27**, No. 2

121 Chronic Colitis with Especial Attention to Types and Causes. C. J. Fishman, Oklahoma City.—p. 25.
122 Consequences of Gastric Hyperacidity. E. D. Holland, Hot Springs, Ark.—p. 32.
123 Gastric and Duodenal Ulcer. C. E. Bowers and W. P. Callahan, Wichita, Kan.—p. 38.

Wisconsin Medical Journal, Milwaukee

February, 1918, **16**, No. 9

124 Plea for More Thorough Operations on Biliary Tract. D. N. Eisendrath, Chicago.—p. 335.
125 Septic Sore Throat: Galesville, Illinois, Epidemic. I. F. Thompson, Eau Claire.—p. 342.
126 Chemical Mechanism of Atrophy, Involution and Hypertrophy. H. C. Bradley, Madison.—p. 349.
127 Compulsory Health Insurance. A. E. Forrest, Chicago.—p. 354.
128 Indications for Davis Cesarean. R. W. Roethke, Milwaukee.—p. 359.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

British Journal of Surgery, Bristol

January, 1918, **5**, No. 19

1 Gunshot Wounds of Chest. P. T. Crymble.—p. 363.
2 Two Cases of Keratodermia Blennorrhagica. C. Lundie.—p. 389.
3 *Septicemia as Complication of Gunshot Wounds; Thirteen Cases. H. M. Anderson and G. Richardson.—p. 393.
4 *Two Cases of Squamous Epithelial Tumor of Breast. R. Johnson and T. W. P. Lawrence.—p. 417.
5 Removal of Rifle Bullet from Right Lobe of Cerebellum. G. Jefferson.—p. 422.
6 *Some Aspects of Treatment of Infected War Wounds. O. G. Morgan, F. D. Saner and E. G. Schlesinger.—p. 425.
7 *Gunshot Wounds of Knee-Joint; Report of One Hundred Cases. E. T. Tatlow.—p. 462.
8 Case of Fascial Grafting for Repair of Traumatic Stricture of Urethra. R. J. Willan.—p. 494.
9 *New Operation for Substitution of Thumb. J. L. Joyce.—p. 499.
10 Case of Traumatic Aneurysm of Radial Artery. C. P. G. Wakely. —p. 505.
11 Case of Partial Separation of Calcaneal Epiphysis. C. H. Whiteford.—p. 507.
12 *Case of Gunshot Wound of Liver, Missile Entering Hepatic Vein, and Lodging in Right Ventricle of Heart. J. E. McCartney and H. Drummond.—p. 508.
13 *Unusual Case of Renal Calculus. F. C. Pybus.—p. 510.
14 Hematemesis and Melana Caused by Piece of Metal from Esophagus Perforating Aorta. N. H. Beal.—p. 512.
15 Case of Two Aneurysms Resulting from Penetration by Small Shell Fragment, One of First Part of Right Subclavian, Other of Aorta. G. Barling.—p. 514.

3. **Septicemia in Gunshot Wounds.**—A study of thirteen cases of septicemia has convinced Anderson and Richardson that blood infection occurs more frequently in patients suffering with gunshot wounds than is usually supposed, and that this infection may be due to a diversity of organisms. The clinical manifestations of such a complication may be few and trivial; the tendency to natural cure is strong. The following types of cases would appear, from their experience, to be those worth investigating: 1. Cases presenting wounds grossly infected with the bacillus of gas gangrene, and exhibiting the symptom complex associated with the third type of septicemia known to be produced by this organism. 2. Cases exhibiting anemia and emaciation with wounds of the cadaveric type. 3. All cases in which delirium is present, apart from those in which the position of the wound is such that the condition is intelligible. 4. Cases with temperature disturbance not accountable for by the state of the wound.

4. **Squamous Epithelial Tumor of Breast.**—In the two cases recorded by Johnson and Lawrence, the growth presented itself as a definite tumor of the breast, and in each the outstanding histologic feature was the presence of squamous epithelium with well-developed prickle cells. One patient was 53 years of age. The tumor had been present three weeks. It was as large as a walnut, was present in the upper and outer quadrant of the breast. The nipple was normal, and the tumor, although intimately connected with the breast tissue, was not attached to the skin or deeper structures. There were no palpable glands in the axilla. The tumor appeared to be slightly elastic, and was thought to be a cyst. Three of the patient's sisters had had cysts of the breast. In one, a cyst had been excised; in another, two cysts had been punctured; and in the third, two operations had been performed for multiple cystic disease. The whole breast, with the pectoral muscles and axillary contents, was removed. A year later there was no evidence of recurrence. Among the reasons that lead the authors to believe that the tumor is not a carcinoma are: (1) the association of gland-like spaces with the epithelial masses; (2) the abrupt change from the small cubical epithelium of the spaces into the squamous epithelium of the cell masses; and (3) the regularity of the cells of the squamous epithelial masses. In the second of these two cases there is no doubt that it is a squamous celled carcinoma originating in the skin overlying the breast, and with the naked eye it was possible to trace fine lines of opaque growth between the surface of the tumor and the skin itself. The structure of the tumor is in one respect peculiar, in that the epithelial masses, instead of

presenting the usual alveolar structure, have retained an exaggerated papillary arrangement, so that these masses are seen to enclose a core of cellular connective tissue.

6. **Treatment of Infected War Wounds.**—The authors discuss the treatment of wounds under two headings: (1) the part wounded; (2) the wound itself. In wounds of the extremities, whether complicated by fracture or not, aimed to secure immobilization of the limb involved, and at the same time to preserve to the patient as complete a mobility of the rest of the body as possible. This has been secured by carefully splinting the limb and then suspending the whole splint from overhead pulleys with accurately balanced counter weights. Any movement of the patient in bed is then followed by the splint, without any disturbance of the injured part, as is shown by the absence of pain. To secure extension, except in certain particular cases they have used almost entirely Sinclair's glue. In dealing with fractures and wounds of the lower limb, the authors have used almost entirely the Thomas splint, either straight or bent, and suspended in extension on the Hodgen principle; the end of the bed being raised to secure counter extension. For fractures of the femur, excepting those very high up, and for extensive thigh wounds, they have used a bent Thomas splint, with a metal archway fixed to the splint in the required position by Mead's strapping and from which the foot is suspended by gauze glued to the sole of the foot. Extension is obtained by gauze glued to the leg and fixed to the end of the splint, while the whole splint is extended either by a running weight attached to its sides or by a forward position of the suspension pulleys. In the intensely comminuted fracture of the tibia the authors have used a Thomas splint, with Sinclair's wooden foot piece.

Fractures of the tarsus and metatarsus have been dealt with by suspension from an archway by the toes, and, if in a Thomas splint, the leg has been kept in position relative to the point of suspension by gauze running from the leg to the bottom of the splint. Fractures of the humerus have been treated, as a general rule, with the elbow flexed to a right angle, and by methods varying with the position of the fracture and the wounds. Fractures of the forearm have been treated either on a right-angled Thomas splint, with the upper fragment fixed to the splint and a weight acting on the lower, or by a form of suspension extension tray. In wounds of the carpus and lower third of the forearm this splint has also been used, usually with a wedge attachment at the end to secure dorsiflexion of the wrist. In cases of fractured scapula they have been in the habit of suspending the arm at shoulder level in counterbalanced slings. In the mechanical treatment of joint injuries, the main object has been to arrange the limb in such a position as to obtain as speedily as possible a penetration of the irrigating fluid into all parts of the joint involved. Extension is here the prime need, and where extension is really efficient, immobilization of the injured parts, that is, the joint surfaces relative to each other, will follow automatically. In infected wounds of the knee joint, where a natural arthrotomy was in existence or where a surgical arthrotomy was performed, the authors have used the metal extension stirrup of Finochietto.

Elbow joints have been treated on the suspension extension tray. Wrist joint wounds have been treated in the same way, extension being obtained from the fingers. Ankle joints have proved difficult, since they are so frequently complicated by compound fractures of the tarsus; but in those cases in which the skin of the sole is uninjured, a very good separation can be obtained by using the metal sole piece used in dealing with oblique fractures of the tibia. A point of great importance in these cases is to obtain a very considerable degree of inversion of the foot, both from the point of view of after-results and of immediate treatment. In the treatment of the wound itself the object has been to destroy as rapidly as possible all dead tissues in the wound. This has been achieved by intermittent irrigation through Carrel's tubes with the hypochlorite solution of Dakin and Daufresne. In addition to the lines of treatment sketched above, ordinary surgical principles as they apply to infected wounds must be observed.

7. **Gunshot Wounds of Knee-Joint.**—These 100 patients have been under Tatlow's treatment at a base hospital. He says that early operation, if the procedure be radical, and especially if the entire capsule can be sutured, results, in 94 per cent. of the cases, in a sterile joint, and therefore in a successful issue. Where a pack or drain is used down to a tear in a capsule or to a cavity in bone, the results can never be depended on. The removal of missiles from the joint within the first week, even in the presence of sepsis (other than that due to the streptococcus), can be followed by immediate suture, bismuth iodoform petrolatum paste being used to aid sterilization. Tatlow regards the Carrel-Dakin method as being the most useful for the treatment of bone lesions or septic periarticular conditions. It is almost impossible to sterilize a severely infected joint by this method. In the presence of a general infection of the joint by the streptococcus, resection gives good results, even when performed in the second or third week. Cases of severe bone injury should be treated more often than they are by an immediate primary resection of the joint at the clearing station.

Aspiration has given bad results in Tatlow's hands. If the effusion is sterile, it must be regarded as a protective effusion and left alone; if it is infected, it must be evacuated. Aspiration should not be used as a curative measure. Every effusion is needled for diagnostic purposes, and if sterile, is left alone to be absorbed, being considered a protective effort on the part of the joint. Nonabsorption does not occur. Absolute immobility is necessary. The fewer the dressings the better. Any operative procedure, short of resection, should be carried out without removing the limb from the splint. Every case of wound in the joint is best treated, for a time at any rate, on a Thomas splint with a fixed extension, using pulleys or not for the splint itself, as may seem advisable. Starting pains at night are an indication for tightening the extension. At first, if the joint appears quiescent and no pain is complained of, the limb is placed on the splint, and the extension bands are applied, but not tightened; as soon as the knee jumps, the bands must be tightened. Small plates of perforated zinc laid on cross ribbons of aluminum are the best supports, as they can be easily changed and the skin attended to by the ward sister with the minimum of movement.

9. **Operation for Substitution of Thumb.**—An operation has been devised by Joyce to substitute a ring finger of the opposite hand for a thumb lost as a result of injury or disease. The well known method of employing a pedunculated flap is used in this operation. The patient on whom this operation was practiced lost the whole of his right thumb, including its metacarpal bone, as the result of a gunshot wound. The operation is described under the following headings: 1. Preparation of the bed for the reception of the new metacarpal bone, and exposure of the proximal end of the divided tendons of the old thumb. 2. Dislocation of the ring finger of the opposite hand at the metacarpophalangeal joint, involving division of the soft tissues at the base of the radial side of the proximal phalanx, division of the extensor and flexor tendons, and the preservation of a nutritive flap on the ulnar side of the finger. 3. Fixation of the new metacarpal bone (proximal phalanx of ring finger) in its bed, union of tendons and nerve, suture of incisions, and fixation of the hands in apposition. 4. Division of nutritive flap—two months later than 1, 2 and 3.

12. **Gunshot Wound of Liver and Right Ventricle.**—In this case a triangular piece of shell about 1 inch in length entered the thorax between the seventh and eighth ribs on the right side, in the midaxillary line. It then opened the right pleural cavity without touching the lung, pierced the diaphragm, and entered the liver. The fragment traversed the right lobe, and passed into a large branch of the right hepatic vein, in this way gaining access to the inferior vena cava. The missile was subsequently found at necropsy lying between the columnae carneae of the right ventricle of the heart, its apex being surrounded by firm white clot which was not of recent origin. The patient had, in addition, other serious wounds, and survived his injuries for thirty-six hours. The presence of the missile in the heart was not suspected during life.

13. **Case of Renal Calculus.**—The renal calculus described by Pybus formed a perfect cast of the interior of the pelvis and calices of the kidney and the upper portion of the ureter.

Medical Journal of Australia, Sydney

Jan. 12, 1918, **1**, No. 2

16 Surgical Notes from Western Front During Summer Fighting of 1917. E. H. Burkitt.—p. 21.

January 19, No. 3

17 Working of Roentgen Ray Departments in Hospitals. H. Harris. —p. 41.

18 Hypochlorites. R. C. Cowley.—p. 41.

Medical Journal of Australia, Sydney

Jan. 26, 1918, **1**, No. 4

19 Military Orthopedics. V. Hurley and H. R. G. Poate.—p. 61.

20 *Subtertian Malaria; Report of Thirty-five Cases. A. W. Holmes à Court.—p. 63.

21 Perforating Injuries of Eyeball by Magnetizable Bodies. G. A. Pockley.—p. 66.

20. **Subtertian Malaria.**—Malarial parasites were found in thirty-three of Court's thirty-five cases. In the remaining two patients quinin had been administered before the blood was examined. In these cases the periodicity of the fever and rapid response to quinin allowed the diagnosis to be established. Morphologically, the parasites corresponded to *Laverania malariae*, the infective agent in subtertian or malignant malaria. Multiple infection of red corpuscles was frequently noted, sometimes three parasites being observed in a single cell. The severity of symptoms in general seemed to correspond fairly closely to the relative number of corpuscles invaded, although the height of the fever did not appear to have so close a relationship to the number of parasites seen in the peripheral blood. The characteristic crescent gametocytes were found in the peripheral blood on the tenth day of the disease in one patient who recovered, and in the spleen and liver in one case which terminated fatally. Albuminuria was present in 48.5 per cent. Hemoglobinuria was not observed. Intramuscular injections of quinin hydrobromid (0.6 gm. dissolved in 8 c.c. sterile water with addition of a few drops of acid hydrobrom. dil) produced rapid amelioration of symptoms. Two injections were given into the gluteal muscles at an interval of eighteen hours. Diarrhea and vomiting then ceased, and rectal or oral administration of quinin sulphate was employed. After two intramuscular injections had been given, not only did the young parasites, merozoites and young trophozoites disappear from the peripheral blood, but the gametocytes could not longer be found, although these forms are usually unaffected by quinin. Two patients died in spite of energetic treatment. Both were already cachectic from other diseases (diabetes and phthisis). The malarial infection was merely a terminal event. A postmortem examination was made in one of these cases, and parasites were found in spleen and liver. Hemozoin granules were noted in the parenchyma cells of these organs. The bone marrow was unusually dark in color, soft and diffluent; no parasites were observed therein. These cases emphasize the importance of early blood examination in doubtful cases of pyrexia, with or without rigors.

Archives des Maladies de l'Appareil Digestif, etc., Paris

March, 1918, **9**, No. 8

22 *Resection of Right Colon. V. Pauchet.—p. 421.

23 *Tropical Dysentery in Spain. F. F. Martinez.—p. 431.

24 Efficacy of Bardane (Burdock) in Treatment of Liver Colic. E. Savini (Jassy).—p. 444.

25 *Duodenal Ulcer with Fistula Later. A. Mathieu and A. S. Alivisatos.—p. 448.

26 *Chronic Diarrhea. A. Mathieu and M. Delort.—p. 454.

22. **Resection of the Right Colon.**—Pauchet includes in this term the cecum, ascending colon and half of the transverse colon. He discusses the indications for resection as afforded by constipation, tuberculosis or cancer, and gives an illustrated description of the technic for shelling out the whole in one piece. The side-to-side anastomosis between ileum and transverse colon is done with a button, the drawn up end of each projecting in a blind pouch beyond. The suture thread of the colon pouch is left projecting through the wound as a kind of safety valve. The vertical incision for the operation is a little to the right of the median line.

23. **Differential Diagnosis of Tropical Dysentery.**—Martinez is chief of the Institute for Tropical Medicine at Grenada, and he has published numerous reports showing the comparatively frequent prevalence in Spain of the so-called tropical diseases, in persons who have never been outside of Spain. He here describes a case of typical dysentery in which he found Schaudinn's *Endameba histolytica*. He emphasizes that the differential diagnosis of tropical dysentery is a simple matter when 1 c.c. of fresh stool can be introduced into the rectum of a new-born kitten. In two or three days the kitten develops dysentery, generally fatal, sometimes with liver abscesses. Emetin cured the acute cases of tropical dysentery, but it also cured in some cases of dysentery of other origin, hence the recovery under emetin cannot be regarded as a sure sign of the amebic origin.

25. **Duodenal Ulcer.**—The symptoms subsided after gastroenterostomy but at necropsy, seven years later, a fistula between the jejunum and colon was found. It was evidently of long standing and had caused no symptoms.

26. **Nonamebic Diarrhea Cured by Emetin.**—There were no symptoms of dysentery, but the recurring severe diarrhea was completely cured with emetin. It was given because dysentery was prevailing at the time. The case is interesting further because the diarrhea returned in an acute form later under the influence of a minor operation. This time it yielded to dietetic measures without drugs, such as previously had had no effect.

Archives de Médecine des Enfants, Paris

January, 1918, **21**, No. 1

27 *Leukocyte Count in Cerebrospinal Fluid. Condat.—p. 1.

28 *Physical Measurements and Tuberculin Reaction. A. Reis.—p. 26.

29 Saccharose in Albumin Milk. G. Rheingantz.—p. 27.

30 Mouth Reaction in Infants on Different Diets. A. Rongel.—p. 27.

31 *Hexamethylenamin in Bronchitis. A. Neves.—p. 29.

32 Infantilism of Malarial Origin. A. A. S. Moreira.—p. 30.

33 Phocomelus Deformity. J. Comby.—p. 33.

27. **The Leukocyte Count in the Cerebrospinal Fluid in Children.**—Condat summarizes eighty-eight cases of pneumonia, meningitis, chorea or other diseases in which the leukocyte count in the cerebrospinal fluid was repeatedly recorded. By simply counting the leukocytes we are able to distinguish between mere meningeal reactions and actual meningitis. Chemical examination of the fluid gives less exact and less sensitive findings. She insists that the number of leukocytes should be specified as a routine element in the clinical record of the case. In some cases of pneumonia the symptoms on the part of the meninges were so severe that meningitis was suspected, until the number of lymphocytes in the fluid was found within normal range or only slightly above this. This also was the finding in a case of otitis, and the outcome justified the favorable prognosis based on the low lymphocyte count in the spinal fluid. They ranged from 1.2 to 3.2 per cubic millimeter, in one case reaching the figure of 26, but even this is far below the figure found in actual meningitis. It reached 202 in one case of syphilitic meningitis, and in tuberculous meningitis ranged from 44 to 112 and 125, or higher, reaching 320 and 400 in two little girls. In the incipient cases, 47 and 50 up to 100 was the rule. There does not seem to be any close connection between the evolution of the meningitis and the lymphocytosis. With acute purulent meningitis the figures were far above this, the leukocytes numbering 1,080 in one case of pneumococcus meningitis, with 97 per cent. polynuclears. In one case there was dissociation, the fluid showing excessive amounts of albumin but only one lymphocyte to the field. This was in a boy of 10 with tuberculous hip and knee disease but no meningitis. Syphilitic meningitis is the only clinical picture in this class of cases liable to prove misleading, and a tentative course of treatment clears up this.

28. **Chest Measure and Height in Relation to the Skin Tuberculin Test.**—Reis obtained a positive skin tuberculin reaction in nearly 35 per cent. of 125 children between 3 and 10 tested at Rio de Janeiro. Among the 36 giving a positive reaction, 21 were smaller than the average for their years, and in 14 the chest measure was abnormally small.

31. **Hexamethylenamin in Bronchitis.**—Neves gave this drug to 92 children with bronchitis and found that appreciable

benefit was derived only in 5 of the 18 with acute bronchitis; in 8 of the 46 with subacute and in 2 of the 28 with chronic bronchitis. The children bore it well when the dose was not over 1 gm. for the age of 6 months to 2 years; 2 gm. for from 2 to 5 years, and 3 gm. from 5 to 10 years, giving the hexamethylenamin always in a 1 per cent. solution in distilled or boiled water. The drug is decomposed so promptly by the gastric juice that within fifteen minutes ammonia and formaldehyd can be detected in the urine; the elimination keeps up for at least two hours. His conclusions are that this drug cannot be depended on in bronchitis in children, but that the hematuria and other by-effects sometimes noted by others after giving the drug are the result of excessive dosage.

Archives de Médecine et de Pharmacie Militaires, Paris

October, 1917, **68**, No. 4

34 *Albuminuria after Acute Nephritis. Péhu and Daguet.—p. 513.
35 *Emetin in Amebic Liver Disease. Cros and de Teyssier.—p. 531.
36 Healing of Skull Wounds. Villandre.—p. 546.
37 Classification of Deafness. J. Molinié.—p. 554.
38 *Burials after a Battle. Bosredon.—p. 561.
39 Wheeled Litter. J. de Fourmestraux.—p. 582.
40 Spirilla Dysentery. Abbatucci.—p. 620.
41 Care of the Wounded at Battle of Gravelotte, 1870. Marit.—p. 652.

34. **Albuminuria after Acute Nephritis.**—Péhu and Daguet refer only to acute nephritis in the troops on active service. Eighty of the men in their service were left with albuminuria, and some presented manifest or occult blood in the urine. Only twenty-five threw off the albuminuria. If this does not occur in three or four months of hospital supervision of the diet, there is no use in keeping the men longer in the hospital. There does not seem to be any tendency to date for chronic kidney disease to develop later. But these men must be regarded for a time as having weak kidneys. They know of only three with recurrence of the nephritis, but they advise a rather long convalescence furlough for men whose residual albuminuria has disappeared. Those with persisting albuminuria in a somewhat stable proportion are not fit even for light duty, and they should be temporarily discharged from the army. When meat was given, albuminuria became increased, although this effect at times was not noted till from five to six or even ten days after meat had been resumed. This intolerance for meat may be only transient. As a rule it subsided in a few weeks so that the ordinary diet could be resumed. In some of the men alcohol invariably increased the proportion of albumin, but the most pronounced effect was from intercurrent febrile infections. An ordinary sore throat, bronchitis, even a rheumatismal condition, brought on a recrudescence of the albuminuria and the output of urine became less. Attempts at organotherapy proved futile, and no benefit was derived from any medication except the symptomatic, including of course theobromin, the excellent influence of which requires no demonstration.

35. **Emetin in Amebic Liver Disease.**—In most of Cros and de Teyssier's cases the dysentery phase of the amebic infection had passed unnoticed. The men complained merely of pain in the liver, sometimes involving the epigastrium, hypochondrium and the base of the chest (in front up to the mamma, not so high in the back). The liver was enlarged and there were tender points in some cases. The fever curve was variable; sometimes after the pus had collected there was no further fever. Six cases of hepatic amebiasis are described in detail. They confirm the prompt efficacy of emetin in many cases of the liver complications of amebiasis. They gave the emetin by a daily subcutaneous injection of 4 cg. for four or six days, then at longer intervals, reducing the dose to 2 cg. If this fails, the emetin can be injected directly into the abscess cavity after it has been emptied by puncture. They advise giving it in every case of persisting pain in the liver in regions where amebiasis is endemic, regardless of whether there have been symptoms suggesting dysentery. Every tendency to diarrhea is suspicious of amebic infection in these regions.

38. **Burial of the Dead after Battles.**—Bosredon comments that the burial of the dead has been left too much to private initiative. In the Belgian army it is obligatory to carry the dead back of the lines for burial. This has a number of advantages, especially for identification purposes. He relates that no isolated graves are found in territory that has been occupied by the Germans. The graves are always arranged in well organized cemeteries, far back from the lines. Even in their retreat they took back with them nearly all their dead. Bosredon suggests that a wire passed around the neck and brought up to the surface of the grave might be used to attach a metal plate or something of the kind on which the identification numbers might be cut.

Bulletin de l'Académie de Médecine, Paris

Jan. 15, 1918, **79**, No. 2

42 *Sulphuration Treatment of Scabies. Railliet.—p. 48.
43 The Liver in Malaria. M. Labbé.—p. 54.
44 Fifth Cusp on Prehistoric Teeth. E. Jeanselme.—p. 55.
45 Intranasal Correction of the Nose. J. Bourguet.—p. 59.

Jan. 22, 1918, **79**, No. 3

46 Kidney Lithiasis and Cancer. P. Menetrier and Martinez.—p. 65.

42. **Sulphuration in Treatment of Scabies.**—Railliet traces the history of the use of sulphur gas back to 1813 and before, and describes Osborn's work in this line in 1884. Railliet's research has convinced him that the effectual agent is the sulphuretted hydrogen alone, heated to 30 C. This is undoubtedly the best treatment known to date for scabies in horses. But he adds that there is no need for apparatus to generate the sulphuretted hydrogen, as the latter can be used in fluid form. It merely requires means to heat it.

Bulletins de la Société Médicale des Hôpitaux, Paris

Nov. 16, 1917, **41**, No. 31

47 *The Gonococcus Count. L. Ramond and L. Charlet.—p. 1099.
48 *Gastric Crisis in Tabes. P. Carnot and I. Bruyère.—p. 1103.
49 War Wound of the Thalamus. G. Guillain.—p. 1110.
50 *The Sphincters with Shell Shock. G. Guillain and Barré.—p. 1111.
51 *Potassium Iodid Intravenously. C. Simon.—p. 1118.
52 *Seltzer Water to Clear the Throat. J. Comby.—p. 1120.
53 *Chronic Lead Parotitis. J. Comby.—p. 1122.
54 Foreign Body Pseudotuberculosis. D. Denéchau.—p. 1123.
55 *Jacksonian Paresis. H. Meige and A. Bénisty.—p. 1128.
56 *Addison's Disease plus Exophthalmic Goiter. F. Ramond and A. François.—p. 1131.
57 *Subdulness at Apex. F. Ramond and A. François.—p. 1134.
58 *The Fifth Cusp. G. Railliet.—p. 1138 and p. 1141.
59 *Color Reaction in Blood Cultures. P. P. Lévy.—p. 1143.
60 *Microsphygmia with War Contracture. M. d'Oelsnitz and J. Boisseau.—p. 1147.

47. **Systematic Gonococcus Count.**—Ramond and Charlet took the blood count and the gonococcus count systematically in nine cases of acute gonorrhea, examining 127 specimens of the gonorrheal pus. They could not detect any regularity or any bearing on the prognosis from either the blood or gonococcus count. One finding however was suggestive, namely, the constancy of the acme of the curve of the total gonococci in the course of the third week. This suggests a partial immunization of the organism to the gonorrheal infection localized in the urethra. This vaccination is far from absolute, but it aids in promoting the action of the balsamics, and thus supplies a basis for the empiric custom of waiting till the end of the third week before giving these drugs.

48. **Tabetic Gastric Crisis without Pain.**—The man of 45 had had occasional morning vomiting during the last two years but seemed otherwise well. Then came a period of vomiting and hiccup which kept up almost incessantly for ten days, with occasional slight hematemesis, but no pains at any time. The whole stopped at once the tenth day. Signs of latent tabes explained this motor gastric crisis.

50. **Transient Sphincter Disturbance from Shell Shock.**—Guillain and Barré report twelve cases of complete retention of urine or incontinence of urine after shell concussion without direct contact. Such sphincter disturbances are rare as they have encountered only these twelve cases among several hundred men with shell shock.

51. **Intravenous Injections of Potassium Iodid.**—Simon found that a patient was not taking the potassium iodid ordered by the mouth, and he then gave the drug by the vein, and reports excellent results, from every point of view, in six cases. There were no signs of iodism, and by waiting until all traces of iodin had disappeared from the urine, there

were no appreciable by-effects. He began with 0.05 c.c. of potassium iodid in 1 c.c. water but gradually increased the dose to 0.9 gm. in solution of 0.25 gm. to the cubic centimeter water. He tested the urine by adding 5 c.c. of chloroform to 10 c.c. urine and pouring in 2 c.c. of nitric acid rendered nitrous by addition of sodium nitrite in the proportion of 10 cg. to 100 c.c. The mixture is agitated and set aside. The positive response is a violet tint in the chloroform. This simple test is sufficiently accurate to show the beginning, maximum and end of the elimination of iodin by the same patient.

52. **Seltzer Water Siphon for Clearing Out the Throat.**—Comby reports that ulcerating, necrotic sore throat can be effectually cleared out by spraying with the jet from a seltzer water siphon. He lengthens the nozzle with a rubber tube 10 or 15 cm. long, which is laid on the tongue depressor held by the left hand. The carbonated water jet washes out the throat, to the great relief of the patient, child or adult. In a recent case of a scarlatinal ulceronecrotic angina, the final recovery of the patient, a young solder, is attributed to this siphonage of the throat repeated several times a day. He clamored for it after the first trial. Labruhe introduced this seltzer water spray method and others have used it in severe anginas with constant satisfaction.

53. **Chronic Parotitis from Lead Poisoning.**—Comby says that the aspect is like that of mumps, but the men presented other signs of lead poisoning in the twelve cases he has encountered. The enlarged glands were not tender, and did not seem to incommode the men.

55. **Jacksonian Paresis.**—Meige and Bénisty state that five men wounded in the skull presented jacksonian phenomena, but instead of spasms they took the form of paresis, lasting for a longer or shorter time, in one member or symmetrical members. The skull wounds had all been in the rolandic area. The disturbances were bilateral in three cases, and in all there were concomitant vasomotor disturbances. These jacksonian phenomena did not develop until three years after the skull wound in one case.

56. **Combined Addison's Disease and Exophthalmic Goiter.**—Ramond and François believe that when the suprarenal glands are insufficient, the thyroid may come to their aid, by increasing its own functioning. In twenty-six cases of Addison's disease they obtained a thyroid reaction in four. In one of these in this group, the thyroid enlarged about six months after the visible onset of Addison's disease. Tachycardia, tremor and other symptoms of exophthalmic goiter became superposed; as they developed, the symptoms of Addison's disease became attenuated. This sequence of clinical phenomena was so striking, they accepted it as a suggestion for organotherapy, and since then have been giving patients with Addison's disease 0.5 gm. of pulverized suprarenal tissue and 0.01 gm. of thyroid powder in the morning, fasting for six days. Then they drop the thyroid, keeping on with the suprarenal treatment for ten days and then continuing with ten days of the two combined, and so on. The outcome was not very clear in some of the cases, but in three the improvement was marked.

57. **Subdulness of the Right Apex.**—Ramond and François have noticed that the apex of the right lung gives a slight subdulness response to percussion, compared with percussion of the left lung, even with normal conditions in both. The distinction is slight but unmistakable. The left forefinger should be placed parallel to the clavicle along the first interspace, not perpendicular to the clavicle. At the back, the finger should be placed symmetrically in examining both apices; they prefer to point it toward the seventh cervical vertebra. Percussion should be compared on both sides during inspiration and also during expiration. In detecting apical tuberculosis, the functional and general signs are most important but they require long and scrutinizing study of the case. Suspects should be sent to a special service equipped for the purpose.

58. **The Fifth Cusp.**—Railliet is inclined to regard the fifth cusp on the molars as a sign of defective development from any one of several causes, not exclusively from syphilis.

59. **The Color Diagnosis of Blood Cultures.**—Lévy has noticed that the bright red and brownish red tints of bouillon blood cultures are observed only when the fluid is sterile. With a purplish tint the cultures will prove positive. This change of tint comes from the hemoglobin of the red corpuscles having become reduced by the action of the microbes present. All the current micro-organisms display this reducing action.

60. **Vasoconstriction with Traumatic Contracture.**—D'Oelsnitz and Boisseau state that the oscillometer applied in 223 cases of contracture in the wounded and in healthy controls showed that the circulation was always weaker in the contracted hand or foot. They found moreover that the circulation even on the sound side was less than normal, although much stronger than on the side of the contracture. They noticed that when these pithiatic contractures were suddenly conquered, the pulse on that side at once became as strong as on the sound side. But it was not as strong as in normal controls, and it seems evident that a constitutional or acquired weakness of the pulse, a microsphygmia, is a more or less important element in the development of the contractures, the physiopathic disturbances.

Journal de Médecine de Bordeaux

January, 1918, **89**, No. 1

61 *Treatment of Malaria. J. Carles.—p. 3.
62 *War Wounds of the Chest. Creyx.—p. 9.
63 *Laparotomies at an Advanced Post. Drouin.—p. 12.
64 Aneurysmal Periosteoma. Charbonnel.—p. 15.

61. **Treatment of Malaria.**—Carles insists that malaria belongs in the same class with syphilis and amebic dysentery as a disease eminently chronic, with frequent revivals of manifestations, and requiring treatment over years, as with syphilis and amebiasis. The different types of the malaria germs respond differently to treatment. Quinin is usually ineffectual against the encysted forms of the falciparum type and vaccine therapy seems the only hope here. To date it has proved impossible to grow these hematozoa in the laboratory on the scale required for prolonged vaccine therapy. This is a problem still to be solved. But if the organism could be thus stimulated to manufacture a constant supply of antibodies, the young germs would be killed off and the chronic infection would thus in time become extinct. Every man with grave malarial infection is disqualified for duty for six months, a year or more. Every return to fatiguing occupations brings back the attacks, and the general health declines. Some of his patients were cured with quinin, 1 gm. morning and night three days a week, given by the mouth, vein or intramuscularly; others did not throw off their attacks until sodium cacodylate was given with the quinin, and thirty of the 100 men thus treated proved absolutely refractory. These all had the falciparum alone or associated with the vivax.

62. **Wounds of the Chest.**—Creyx describes the differences in the physical findings when there is much hemorrhage. With an open thorax the stethoscope findings are unreliable, but when the thorax is closed, the stethoscope will reveal the hour when effusion from being mechanical becomes inflammatory. This change in the stethoscopic findings coincides with the appearance of the polynucleosis index of the effusion.

63. **Laparotomies at an Advanced Post.**—Drouin relates that of twelve men brought in with multiple wounds of the abdominal viscera, five died at once and three recovered of the seven others given prompt operative treatment. Some of the others might have recovered if it had not been for pulmonary complications. Radioscopy is a valuable aid in ascertaining conditions but it has so many drawbacks, the delay, the chilling of the man, the handling, etc., that it is by no means indispensable. The anatomic exploration and the resection of the path of the projectile are the first steps when practicable. A little morphin in two doses seems to aid in raising the blood pressure when the suffering predominates in the shock. If after an hour there is no recuperation, any intervention is hopeless, but if the pulse is the least bit better, then he operates at once. The resection of the path of the projectile is done with instruments, gloves, etc., which

are then discarded and others taken for the laparotomy proper. He does not begin the work of repair until the whole abdomen has been examined and the path reconstituted.

Journal de Radiologie et d'Electrologie, Paris

September-October, 1917, **2**, No. 11

65 *Interpretation of Roentgen Findings of the Sphenomaxillary-Temporal Region and the Face. C. Villandre.—p. 641.
66 *Roentgen Treatment of Tinea. M. J. Gouin.—p. 648.
67 Echinococcus Cyst of the Tibia Revealed by Roentgenography. A. Mignon.—p. 655.
68 *Roentgen Ulcer of the Scalp. J. Belot and Chavasse.—p. 657.
69 *Equipment to Produce Radio-active Water. A. Laborde.—p. 662
70 Control of Spark Regulator from a Distance. L. Delherm and A. Laborde.—p. 666.
71 Forceps for Extraction of Projectiles under Roentgen Screen Control. Ducellier.—p. 667.

65. **Radioscopy of the Face.**—Villandre gives a number of typical radiographs of the side of the face, temple and jaw, interpreting the findings by his extensive experience with projectiles lodged in these regions. The aim is to locate the foreign body by its relation to the skull and the brain, by its relation to the spheno-maxillo-temporal region, and also to the cavities of the face.

66. **Roentgen Treatment of Tinea.**—Gouin has been applying the rays to a circle and then covering the exposed circle with a disk of lead, and so on. This is the technic used at the Lallier school for children with ringworm, but the length of the treatment can be advantageously shortened, he says, by exposing the whole of the scalp to a dose of 5 units each at five sittings. Each sitting takes about an hour for this superficial crossed-fire method of application. It has proved extremely satisfactory in 300 cases of tinea and ten of favus. He gives illustrations showing the position for each of the five fields of exposure. The ear is protected with a sheet of lead.

68. **Radiodermatitis after Roentgen Examination of the Skull.**—In order to locate a projectile, three exposures of fifteen and twenty-two minutes were made of the skull above the ear, the patient a man of 37. This was followed within a few days by a severe dermatitis in the region, edema and ulceration. Now, nineteen months later, the whole region, about 8 cm. in diameter, is bald.

69. **Pump to Supply Radio-Active Water.**—Laborde gives an illustrated description of an apparatus which supplies radioactivated air or water for research on the biologic and clinical effects.

Paris Médical

Jan. 5, 1918, **8**, No. 1

72 *Incipient Tuberculosis. P. Merklen.—p. 3.
73 The Provisions in the Different Provinces for Tuberculous Soldiers. L. Bernard.—p. 8.
74 Phthisiophobia and Phthisiomania. C. Sabourin.—p. 12.
75 *Tuberculosis and War Gases. Gimbert.—p. 17.
76 *Pleurisy in Tillers of the Soil. Braillon.—p. 23.
77 Abbreviations for Breathing Signs. G. Railliet.—p. 25.
78 *Sign of the Sou. P. Lereboullet.—p. 26.

72. **Incipient Tuberculosis.**—Merklen reviews the various conditions which should be excluded before accepting a tuberculous origin for the symptoms observed: mouth breathing, nasopharyngeal lesions, anomalies in the thorax, etc. There is nothing characteristic about the objective symptoms or the functional findings with either a progressing or an arrested affection or pleuritis at the apex, and the decision must be based on the general signs, and the persistence of the shadow after coughing.

75. **Tuberculosis Developing after Gassing.**—The injury from the war gases may rouse a slumbering tuberculous lesion, but this does not seem to be of frequent occurrence. When it develops there may be scarcely any general signs although the pulmonary lesions are progressing rapidly. Prophylaxis consists in intensifying the measures to aid in throwing off the intoxication, and prolonged supervision, combating the low blood pressure, vasodilatation, etc.

76. **Pleurisy in Farm Workers.**—This entire number of the *Paris Médical* is devoted to disease of the lungs and pleura. Braillon calls attention to the characteristic location of a pleural effusion in the front upper part of the pleura in men who bend over at their work, such as tillers of the soil.

78. **The Penny Sign of Pleurisy.**—Lereboullet remarks that time has confirmed the instructive findings when a pleural effusion is auscultated from the rear while two pennies are struck together in front. This *Signe du sou* is one of the best means to detect an effusion in the pleura. One of the pennies is held flat on the chest and it is struck rhythmically with the edge of the other penny.

Presse Médicale, Paris

Jan. 10, 1918, **26**, No. 3

79 Mitral Stenosis in the Army. J. Denis.—p. 21.
80 Suture of War Wounds. R. Grégoire and H. Mondor.—p. 22.
81 Simplified Intratracheal Injections. M. Mignon.—p. 23.

Correspondenz-Blatt für Schweizer Aerzte, Basel

January 19, **48**, No. 3

82 *Etiology and Prophylaxis of Goiter. O. Bernhard.—p. 65.
83 *Pyelitis in Children. E. Wieland.—p. 68. Conclusion.

82. **Lack of Light as Factor in Goiter.**—Bernhard argues that as endemic goiter seems most prevalent in deep valleys shut off by the mountains from the sunlight, the lack of light may be a cooperating factor. He cites other evidence to sustain this view.

83. **Pyelitis in Young Children.**—Wieland says that four died of the forty-five children with pyelitis at the Basel children's clinic, including one from pneumonia after it had been taken home. In only one case could the death be ascribed to the pyelitis alone. The death rate in his service therefore for pyelitis in young children was only 5 per cent., approximately the same figure as in adults. In his series the sexes were about evenly divided in the infants, but the older children were girls. This and other reasons confirm the assumption that the disease is blood borne or lymph borne in infants. The colon bacillus is generally found but he has encountered also the staphylococcus, streptococcus and proteus. Predisposing factors are some slight infection of the respiratory passages, rhinopharyngitis, angina or grip, occasionally pneumonia, chilling or bowel trouble, but constipation does not seem to have anything to do with it nor retention of urine. The acute sudden onset, high fever, usually following close on some slight infection and without symptoms of cystitis, and the primary localization of the pain in one or both kidney regions, all point to an infectious process in the kidney pelvis probably secondary to some injury of the interstitial tissue of the kidney. The diagnosis cannot be definitely made without microscopic examination of the urine, leukocytes in the hanging drop of the urine (in the female) obtained with a catheter. The usual boiling test does not reveal the pus in the urine. Fever without apparent cause, pallor, general muscular rigidity with persisting loss of appetite should suggest pyelitis and call for microscopic examination. The prognosis for the single attack is favorable but infants are liable to succumb to complications, and the pyelitis is liable to recurrence; possibly the pyelitis of pregnant women may be traced to pyelitis in infancy. Treatment should aim to stimulate diuresis, sterilize the urine and keep it persistently alkaline. The acid pyelitis urine should be rendered alkaline. The best results were realized with hexamethylenamin at first, from 0.2 to 0.5 gm. three times a day—this acts best in an acid medium—with restriction to milk and copious intake of fluids, weak gruels, tea, sweetened water, Ems water. After eight or ten days, when the acute symptoms, fever, prostration, pains in the pelvis and disinclination to eat or drink, have subsided, then he turns to alkaline treatment, giving salol with it, 0.3 gm. each of salol and of sodium bicarbonate three times a day, even to infants. For older children he gives 0.5 gm. salol with 2 or 3 gm. sodium bicarbonate three times a day. Fruit juices and vichy or other mineral water are given the infants; the older children get a mixed diet mostly of vegetables and cooked fruit.

Annali d'Igiene, Rome

November, 1917, **27**, No. 11

84 *The Meningococcus. P. Caldarola.—p. 665.
85 *The Bacillus Murisepticus in Rodents. N. Mori.—p. 685.
86 Hemotrichomonas in Pigeons' Blood. A. Lanfranchi.—p. 697.
87 Hygiene in Cultivation of Rice. L. Verney.—p. 700.

84. **Conservation of Strains of Meningococci.**—Caldarola had forty-two strains of meningococci that had been sent to the laboratory from different parts of Italy for the production of polyvalent antiserums. In studying them he found that none of the strains of living meningococci injected into the rabbit peritoneum displayed toxic action, while an intravenous injection at the same time killed the animals. An ether extract of the germs, injected intravenously, reduced the defensive powers so that the otherwise harmless intraperitoneal injection then killed the animal. Extracts of typhoid bacilli had the same effect.

85. **Infectious Disease in Field Rodents.**—Mori describes a natural infection of the *Pitymys savii* which seems to be the work of the *Bacillus murisepticus*. Large numbers of these rodents were infected with it. When it was prevalent the swine showed a high mortality, and he thinks that the swine plague, called locally russa, is probably the same thing as this disease in the arvicola.

Rivista Critica di Clinica Medica, Florence

Dec. 22, 1917, **18,** No. 51

88 Conservation of Rabies Virus in Dry Form. A. Martiri.—p. 513.
89 *Staining Technic for Urine Sediment. C. Minerbi.—p. 518.

89. **Urine Staining Technic.**—Minerbi heats the isolated urine sediment with human blood serum or egg albumin, both of which coagulate under the action of fixation measures. Then when the May-Grünwald-Giemsa stain is applied, the background is homogeneous and colorless, and the preparation is exceptionally instructive in every respect. After centrifugating the urine, all the fluid is decanted except one or two drops. Then a droplet of egg albumin is taken up on a platinum loop and the loop is plunged into the sediment and agitated to mix it, with care not to cause production of bubbles. Then the mouth of the tube is held slanting on an object glass and with the platinum loop a droplet is spread all over the object glass, and two other slides are prepared in the same way. Before drawing out the sediment, the loop is singed to be sure that no undissolved albumin is sticking to it. He regards the method as extremely practical and instructive. His first publication on the advantages of impregnation of the sediment with human serum date from 1914.

Boletin de la Asociacion Medica de Puerto Rico

December, 1917, **13,** No. 116

90 *Military Medical Service in History. Editorial.—p. 131.
91 *Analysis of Diabetic Foods. R. del V. Sarraca.—p. 135.

90. **The Military Medical Service Through the Ages.**—Homer referred in the Iliad to the great value of the services rendered by the sons of Esculapius in the Grecian army, and the kings of Persia and Macedonia had Greek physicians to look after the health of their armies in their various campaigns. In all ancient states the duty of bearing arms was incumbent on all the citizens, including the medical men, so there were always some with the armies. Even in the days of Alexander we find records that the physician had to suffer from the transgression of the laws of hygiene by his patients. Alexander condemned the physician, Claucus, to death because a certain friend of his, who had been kept on a restricted diet, feasted on chicken and wine while the physician was at the theater, and died therefrom. Not until the nineteenth century was there any organized medical department of the army, but since then the importance of this branch of the service has been recognized more and more. The editional concludes: "We physicians of Puerto Rico have many and favorable opportunities for serving in our professional capacity, but it will be necessary for this to join some of the medical training camps which have been founded at different points in the United States. We are going to give the nation a contingent of men who will need physicians, and physicians trained for the task, as is now recognized to be necessary for efficient service. Puerto Rico physicians who are qualified and who would like to go will not lose this opportunity for serving their country and humanity, lending their valuable aid to the cause of democracy and civilization."

91. **Diabetic Foods.**—This report was prepared at the request of the Porto Rico Medical Association and was read at the annual meeting. The laboratory of the national public health service analyzed samples of the diabetic foods sold in Porto Rico and the results are tabulated in full detail. The findings in United States laboratories and experiment stations are tabulated likewise for comparison. The five foods bought in the local markets represent only from 337 to 701 calories, an average of 562 calories to the pound, so that it would be necessary to eat 7 pounds a day to make up 3,500 calories. The conclusions of the writer are to the effect that the best presentation of the matter of diabetic foods is that of Dr. F. Nicholson in the *British Medical Journal*, 1917, **1,** 82. He discards all the diabetic foods of commerce and has prepared from peanuts, in the patient's own home, a nutritious and palatable bread that can be sliced and keeps well. The peanuts are dried, shelled, and the nuts ground. To 8 ounces are added 2 ounces of casein, obtained by coagulating milk with lemon juice or rennet; salt to season, and 12 ounces of well beaten whites of eggs. The whole is thoroughly mixed and baked in a pan. This produces an inexpensive preparation that his patients have eaten with relish for two years to date of writing.

Prensa Medica Argentina, Buenos Aires

Dec. 10, 1917, **4,** No. 19

92 *Cultivation of Sarcoma Cells. A. H. Roffo.—p. 251.
93 *Abscess of Occipital Lobe. T. Martini and J. I. Berterini.—p. 254.
94 Dangers of Optochin in Pneumonia. E. P. Camou.—p. 257.

92. **Cultivation of Sarcoma Tissue in the Test Tube.**—Roffo gives fifteen microphotographs of tissue from white rats' spindle-cell sarcoma cultivated in blood plasma from the same animal or a hen. The cells grew well for six or seven days but then died off unless transplanted. Renovation of the nutrient medium intensified the proliferation of the cells. The cells may undergo morphologic differentiation until they show the spindle shape.

93. **Abscess in the Occipital Lobe.**—The man had complained of intense headache for two months, vertigo and other symptoms suggesting a cerebellar tumor. There was a history of a suppurative process in the ear two months before. The man was delirious or unconscious when first seen and it proved impossible to determine the site of the lesion. Death soon followed and necropsy revealed two abscesses in the occipital lobe, evidently from blood-borne infection, as the abscesses were in the center of the lobe, not communicating with the surface. One seemed to be old and encysted. The other was recent and had evidently just perforated into the lateral ventricle, but the symptoms had all pointed to the cerebellum.

Revista de Ciencias Medicas de Barcelona

December, 1917, **43,** No. 12

95 *Lumbar Puncture in Children. R. Raventos.—p. 509.

95. **Lumbar Puncture in Children.**—Raventos declares that pediatrics has benefited by lumbar puncture more than any other branch of medicine. The neglect to determine the germs in the cerebrospinal fluid has been responsible for many deaths, he is convinced, as this alone permits proper treatment. He reiterates the facility and harmlessness of lumbar puncture in children, showing in numerous illustrations the exact anatomic conditions in the region as determined on fifty-five cadavers including some prematurely born infants; all but six were less than 1 years old, the oldest was 5. He emphasizes that lumbar puncture is much easier in children than on adults. The distance from the skin to the dura is less, and the meningeal sac reaches lower down proportionately than in adults; the tissues are less resistant; the spine is more elastic, and the vertebrae can be spread farther apart than in adults, while the spinous processes are shorter and horizontal. He gives some illustrations of the trunk cut across horizontally at the point where lumbar puncture is made, and tabulates the various measurements in the fifty-five cadavers as also the weight in comparison to the thickness of the subcutaneous tissue. He always makes a point of taking up a fold in the skin to measure the thickness of the soft parts. One half the thickness of the fold represents

the approximate distance the needle has to travel before it reaches the bone. To determine the size of the spinal cavity, he compared it with the circumference of the cornea in the fifty-five cadavers, and found the figure representing the corneal limbus identical with that representing the antero-posterior diameter of the spinal canal or smaller; it was never a larger figure. Hence it may be assumed that the needle can be introduced to a depth equivalent to the figure representing the thickness of the soft parts, plus a figure less than the limbus of the cornea. He estimated the capacity of the spinal canal in the cadavers, seated, after evacuation of all the spinal fluid, injecting a stained fluid until it appeared at an opening in the occipital region. This capacity was found to be 3 or 4 c.c. in a girl infant weighing 2,070 gm.; 12 c.c. in a girl of 16 months weighing 4,900 gm.; 11 c.c. in boy 1 year weighing 5,030 gm; 6.5 c.c. in boy infant of 13 months weighing 4,700 gm., and 30 c.c. in boy of 3 years and also in a girl of 5. Among the minor points mentioned is that when the head is bent forward the fluid will flow downward into the frontal region, and thus be shut off from the spinal canal completely. One of his illustrations shows the transverse section of the trunk of a child of 20 months with the lumbar puncture needle in place. The distance through the soft parts is 12 mm., the diameter of the spinal canal, 14 mm. With a needle just 13 mm. long, the tip enters the spinal canal while there is no possibility of injuring any organ. Another illustration shows the instrument, something like a monkey wrench, with which he takes up the longitudinal fold in the soft parts to measure the depth down to the bone.

Revista del Instituto Bacteriologico, Buenos Aires

November, 1917, **1**, No. 1

96 *Specific Precipitating Properties of Antivenom Serums. B. A. Houssay and J. Negrete.—p. 15.
97 The Typhoid Epidemic at Lomas. M. V. Carbonell and H. Riganti. —p. 33.
98 *Experimental Poliomyelitis. R. Kraus and L. Kantor.—p.43.
99 *Miostagmin Reaction with Cancer. A. H. Roffo.—p. 53.
100 *Plants Poisonous for Cattle. C. Flores and B. A. Houssay.—p. 59.
101 Para-Ozena Microbes. C. Zanolli.—p. 101.
102 Present Status of our Knowledge of the Coccobacillus Acridiorum of d'Herelle. B. Barbara.—p. 107.

The Revista.—This is the first issue of this official organ of the Bacteriologic Institute of the National Public Health Service of Argentina. In this number the conclusions of all but the last articles are repeated in Spanish, in German, in French and in English. This number also contains a five-page list of the communications from this institute which have been published since 1913 in various scientific journals. Many of them have been summarized in these columns, among them Roffo's work on cancer and Kraus and Penna's work on treatment of anthrax with normal beef serum.

96. **Antivenom Serum.**—Houssay and Negrete conclude their study of the precipitins in antiserums for snake poison with the statement that the antitoxic power of the antiserum cannot be gaged by the precipitating power, as there seems to be no parallelism between them. As a rule, however, the strongest antiserums display the greatest precipitating power.

98. **Experimental Poliomyelitis.**—Kraus and Kantor obtained virus from the Rockefeller Institute of New York but found it impossible to reproduce the disease in the four Paraguayan monkeys inoculated with the virus. Two imported macacus monkeys inoculated speedily developed and died from the disease, presenting every evidence of poliomyelitis. These experiences confirm Flexner's statements in regard to the nonsusceptibility of the monkeys of the New World to experimental poliomyelitis. Experiments on rabbits and guinea-pigs were likewise negative, but they believe that it may yet be possible to reproduce the disease in rabbits after passage of the virus through sheep or some other animals.

99. **The Miostagmin Reaction with Cancer.** — Roffo announces that a more dependable antigen than lecithin for the miostagmin reaction can be prepared from the spindle cell sarcoma of white rats. Positive results were obtained with it in 110 specimens of serum from clinical cases of cancer or from rats with cancer. The findings were positive in all except in 3.64 per cent. of the human cases.

100. **South American Plants Poisonous for Cattle.**—The plant studied was the *Baccharis coridifolia* D. C. There are about 300 species of baccharis in South America, many of them known to be poisonous. If it were not that cattle instinctively avoid them, stock raising would be impossible in many regions. The accidents from eating the plants generally occur in animals from regions where the plants are not found, or when the cattle are driven to them by drought killing off their usual food. When cattle are received from regions free from this baccharis, they are driven into a corral and a smudge of the plant is made to induce coughing and lacrimation, and their gums are rubbed with the plant, after which they never touch it. The research on the toxicity tested on numerous species of animals, poultry, pigeons, frogs, and invertebrates showed that the blossom and leaf contain most of the poison. As the animals refused to eat it, the plant was administered in pills or solution. It does not seem to have a caustic action in the human mouth or in the dog conjunctiva, not even with concentrated extracts. The poison acts mostly on the nervous system, with also toxic vasomotor, secretory and motor disturbances in the digestive apparatus of most of the animals tested. The local names of the plant are mio-mio, nio and romerillo. The North American species are mostly of the aster family.

Revista de Medicina y Cirugia, Havana

January 25, 1918, **23**, No. 2

103 *Vital Statistics in Cuba. R. J. Fosalba.—p. 31.
104 *Rectal Exploration in Diagnosis of Pregnancy and in Labor. J. F. Arteaga.—p. 41.
105 Dietetic Laboratories. D. F. Ramos and J. A. Simpson.—p. 45.
106 History of Medical Press of Cuba. M. R. Casabo.—p. 50.

103. **Vital Statistics.**—In discussing ways and means to ensure accuracy in the vital statistics of Cuba, Fosalba mentions a special form of occupational morbidity, namely, the tendency to abortion of women employed in tobacco factories. He cites reports published in Italy, Spain and elsewhere, on the relations between chronic tobacco poisoning and the reproductive organs in women. Zuccardelli and Valdagni called attention long ago to the sterility of women working with tobacco, and Fosalba's five years of investigations in the tobacco factories of Santiago, Havana and elsewhere, and the tobacco plantations of Vuelta Abajo have confirmed this phenomenon.

104. **Rectal versus Vaginal Examination.**—Arteaga cites recent writers who advocate rectal exploration in labor, and describes experiences of his own with it. His conclusions are unfavorable as to its convenience and reliability.

Semana Medica, Buenos Aires

Oct. 25, 1917, **24**, No. 43

107 Vaccine Treatment of Diphtheria. II. (Haptinogenina.) J. Mendez and L. A. Garcia.—p. 463.
108 *Interlobar Pleurisy. J. Destefano.—p. 482.
109 Care of the Sick and Poor at Buenos Aires. E. R. Coni.—p. 485. Continuation.

Nov. 8, 1917, **24**, No. 45

110 *Hygiene of the Eyes. P. B. Ferro.—p. 517.
111 History of Medicine. L. Bard.—p. 522.
112 *Tests with Fluorene. L. Guglialmelli and A. Delmon.—p. 526.

108. **Masked Interlobar Pleurisy.**—In the case described the symptoms at the base seemed to indicate purulent pleurisy of the general cavity but resection of the ninth and then of the eighth rib failed to show pus. Resection of the sixth rib opened up the pus collection. The symptoms were the result of merely a secondary cortical pleuritis at the base, of a pneumonic type, the primary trouble being a subacute purulent interlobar pleurisy. The case is a good example of what Chauffard calls the pseudopleuritic syndrome of the base. In this case there was no walling off of the process, as usually occurs. The symptoms at the base did not develop until about four weeks after the first symptoms which had been intermittent pain in the left side, with a slight dry cough but no fever. Puncture in the sixth interspace showed pus and the operation followed six days later.

110. **Hygiene of the Eyes.**—Ferro expatiates on the necessity for restricting the prescribing of eyeglasses to scientifically trained physicians, and the making of the glasses to

opticians certified by the National Public Health Service as known to be competent and equipped for the work. Any firm can apply for the certificate. No others should be allowed to sell eyeglasses, except those of plain glass. A physician's prescription should always be required except to replace broken glasses. Financial association of physician and optician is on the same plane, he thinks, as association of physician and druggist. The measures advocated above he has proposed to the National Public Health Service, hoping that it may prove the basis for legislation on the subject.

112. **Fluorene Color Reactions.**—These reactions have been found useful in differentiating the furfurols produced in distilling various carbohydrates, etc.

Nederlandsch Tijdschrift voor Geneeskunde, Amsterdam

Dec. 8, 1917, **2**, No. 23

113 *Potato Flour Biscuits. E. C. Van Leersum.—p. 2025.
114 *Constitutional Eosinophilia.. H. D. Klinkert.—p. 2039.
115 The State of Nourishment of Amsterdam Schoolchildren. M. R. H. Van Den Berg.—p. 2048.
116 *Perforation of Gallbladder in Pregnant Woman. W. H. A. Van Os.—p. 2052.

113. **Potato Flour Biscuits.**—Van Leersum has been experimenting with potato flour mixed with substitutes for gluten, and reports encouraging results. The bread and biscuits rise and bake porous and crisp. He does not mention the substitutes for gluten he used, as his experiments in this line are not concluded. The German government gave prizes to stimulate production of potato flour, and he relates that 900 drying establishments have been founded there during the war.

114. **Constitutional Eosinophilia in Connection with Gout.**—Klinkert asserts that study of familial eosinophilia has cleared up the conception of the gouty and the neuroarthritic diatheses, asthma, urticaria, etc. These are all the result of a constitutional abnormal condition of the vegetative nervous system. This disturbance in the innervation is manifested usually by a constitutional and familial eosinophilia. It may be further manifested by asthma, hay-fever, urticaria, epilepsy or gout, these being all clinical equivalents in adults; children are liable to present the exudative diathesis. Klinkert shows how this conception of deranged innervations throws light on these various disturbances and links them, and the various affections in the families with constitutional eosinophilia confirm these causal relations and the influence of the vicious circle. Asthma and hay-fever, as well as gouty joints, are thus explained as a nervous-gouty catarrhal state. The acute attack of gout is an acute trophoneurosis. The most serious localization of the gouty tendency, however, is in the kidneys, and this adds, secondarily, a new element to the pathology of gout, namely, retention of uric acid. The mistake has been made that this uricacidemia is assumed to be the cause of gout, when in fact it is secondary to the neuro-arthritic diathesis. The retention of uric acid sets up a vicious circle between the attacks of gout; urticaria may result as an equivalent of the acute attack of gout. In the intervals between the attacks of gout, if the elimination of uric acid is below normal, we can assume that the kidneys are already more or less pathologic. As Lecorche says: *Quand la gravelle cesse, la goute articulaire commence.* Asthma, hay-fever and gout are more common in men than in women, possibly because the thyroid seems to function less in the male. In women the gouty tendency becomes more manifest at or after the menopause, when the thyroid may be supposed to become less active. Falta's report that the elimination of uric acid is usually low in exophthalmic goiter fits into the argument, as also Trousseau's observation that asthma, enuresis nocturna and similar neuroses disappear under the influence of an acute febrile infectious disease. This whips up the sympathetic nervous system, and it overcomes the hitherto prevailing abnormal influence of the autonomic nervous system. The pathologic hyperfunctioning of the autonomic nervous system is responsible for the sluggish metabolism, the sluggish nutrition, Landouzy's *diathèse bradytrophique,* the eosinophilic neuro-arthritic diathesis—all these are various terms for the gouty constitution.

116. **Perforation of Gallbladder in Pregnant Woman.**—The woman had typhoid just before her ninth pregnancy and five months later developed gallbladder empyema. Cholecystectomy followed twenty-four hours after perforation with extensive peritonitis, but the pregnancy proceeded undisturbed to normal delivery four months later.

Hospitalstidende, Copenhagen

Jan. 2, 1918, **61**, No. 1

117 *Carbon Monoxid Poisoning. J. Bock.—p. 1.

117. **Carbon Monoxid Poisoning.**—Bock reports a case of poisoning from a defective stove. The body of the husband was found on the floor near the stove, and two-thirds of the hemoglobin in his blood had been transformed to carbon monoxid hemoglobin. The baby near him showed no signs of poisoning. The body of the wife was in the closed adjoining room and only one-fifth of her hemoglobin had been thus transformed, and she had evidently survived the man for several hours. Bock assumes that originally her blood had been as deeply poisoned as her husband's, but that she sought the bed room when she felt sick, and her blood gradually threw off the carbon monoxid gas. It would in another half hour or two have thrown it off altogether, and nothing would have been found to explain her death. Bock experimented on animals in connection with this case, and found that the animals died even although all the carbon monoxid had been thrown off. Evidently the central nervous system becomes irreparably injured from the after-effect of the protracted asphyxia. In the medicolegal case described, the baby must have been kept in the adjoining room, as was known to be the custom, and was not brought out into the room with the stove until late, and was then placed near a window. Bock remarks that if the woman's body had not been found till all the hemoglobin had been thrown off, and if she had been living alone with her baby, the cause of her death might never have been cleared up.

Hygiea, Stockholm

Dec. 15, 1917, **79**, No. 23

118 *War Fractures of Jaw and Nose. J. A. Hedlund.—p. 1281.

118. **War Fractures of Jaw and Nose.**—Hedlund relates that he has made three trips to Germany to study the measures being applied there in treatment of war wounds of jaws and nose. He tabulates the data from forty cases at Düsseldorf and twelve from another hospital, both of which make a specialty of jaw and nose work. He says that treatment applied on the general principles of surgery, especially when a dentist and surgeon work together, gives very good results. Bone transplants are taken from the tibia or the crest of the ilium. For the nose, a skin, periosteum and bone flap from the ulnar region was used sometimes. Silver, ivory, etc., are cast off later, as a rule. The Indian or Italian method of flaps of soft parts were sometimes used. He gives a few illustrations, among them one of a device for fixation and extension of the jaw, with thumbscrew, which is applied from without.

Ugeskrift for Læger, Copenhagen

Dec. 27, 1917, **79**, No. 52

119 *Lymphogranulomatosis in Syphilitic. L. Melchior.—p. 2143.

119. **Lymphogranulomatosis in Syphilitics.**—Melchior reports two cases both in apparently robust men of 29 and 46 who died in a few weeks or months after beginning of vague symptoms suggesting pulmonary disease in one case and cardiovascular disease in the other. The general condition rapidly declined, with emaciation and collapse. Both had a positive Wassermann reaction, and necropsy revealed tumor-like hyperplasia in lymph glands and spleen and also in liver, lungs, peritoneum and bladder in one case, but no signs of tuberculosis. Analysis of these cases and of the literature seems to confirm the idea that if we do not accept lymphogranulomatosis as a disease *sui generis,* then there seems to be no reason why syphilis may not be one of the causes to induce it. At present therefore it is best to record the cases merely as lymphogranulomatosis in syphilitics.